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ENERGY SOURCES IN CANADA
COMMODITY ACCOUNTS FOR
1948 AND 1952

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FOREWORD

This research memorandum presents the results of a study of the available statistics on fuel and energy for the years 1948 and 1952. It was prepared in close co-operation with the Technical Sub-Committee of the Interdepartmental Committee on Energy.

The memorandum was prepared by Mr. R.J. Loosmore, under the direction of Mr. H. McLeod, Director of the Industry and Merchandising Division.

HERBERT MARSHALL,

Dominion Statistician.

ENERGY SOURCES IN CANADA: COMMODITY ACCOUNTS FOR 1948 AND 1952

(Reference Paper No. 69)

ERRATA

Page 15, in right-hand column, line 13, the phrase "150.9 million B.T.U.'s per head in 1948" should read "151.6 million B.T.U.'s per head in 1948."

Page 18, in table headed "Use of fuel commodities and electricity per head of population in Canada, selected years, 1929 to 1952," delete lines for 1929 and 1948 and substitute -

1929 ..	10,029	1,315,222	131.1	1,285,266	128.2
1948 ..	12,823	2,018,737	157.4	1,944,529	151.6

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ENERGY SOURCES IN CANADA

COMMODITY ACCOUNTS FOR

1948 AND 1952

Introduction

The use of energy in Canada is changing rapidly at the present time, considerable differences in the pattern being apparent even between 1948 and 1952. The purpose of this work was to facilitate study of these changes by bringing together the available statistical material, and assembling it into a unified presentation.

The method of approach was to prepare, for each commodity or group of commodities concerned, a statement showing the supply apparently available in Canada, and the amount of consumption that was measured. In most cases, the balance was close enough to justify the description of these tables as "commodity accounts." Where statistical cover on the distribution side was too low to justify that expression, the term "commodity statement" is used.

These statements for individual commodities were then consolidated into tables showing the supply and distribution of energy sources in Canada. Table 1 covers 1948, and table 2 covers 1952. Conversion of the fuels and electricity into their equivalent in terms of B.T.U.'s made it possible to add up all energy sources, where this could be done without double-counting. Tables 5 and 6 show the results for 1948 and 1952 respectively.

When reading this memorandum, it is necessary to bear in mind the distinction between energy sources used and energy effectively applied. For instance, when a steam engine is in operation, the energy source used consists of the coal which is stoked into the boiler. The energy effectively applied is the amount of force exerted by the driving shaft of the engine. The potential energy in the coal is not all effectively applied. Some heat, for instance, goes up the chimney, while other energy is used in overcoming friction within the engine. When an oil furnace is used for heating a home, the energy input consists of the potential energy in the oil burned. The energy effectively applied is the amount of heat used for heating the home, as distinct from heat going up the chimney.

The efficiency of a fuel in producing mechanical energy varies with the type of prime mover which it powers. Burning a fuel in such a way that the gas generated is applied directly to the prime mover, as in an internal combustion engine, or in a gas turbine is, in general, more efficient than using it to raise steam for a steam engine. Steam turbines are, in general, more efficient than steam reciprocating engines in which the steam drives pistons. The energy source which can be most effectively applied is electricity, since it is itself a type of energy.

The available statistics on distribution cover the input of energy sources only. They range over such items as coal burned in factories, crude oil used in petroleum refineries, gasoline used in motor vehicles, and electricity used for street lighting. They do not measure energy effectively applied.

For this reason, the consolidated tables based on British Thermal Units (tables 5 to 8) should be interpreted with care. They do not relate to energy effectively applied. In terms of work actually done, for instance, electricity is far more important than it is in terms of potential energy supply. Energy input per head of population was approximately steady from 1948 to 1952, although inspection of its constituents indicates that energy effectively applied per head of population probably increased.

Methods Used

The fuels covered consist of all the major ones used in Canada. A few minor items, such as peat, candles, and charcoal were excluded. The principle behind the choice of commodity groups for which statistics were to be presented was that of giving the highest degree of detail consistent with the concepts used. The choice therefore depended on the nature of the statistics already in existence. Gasoline and naphtha, for instance, were combined because export statistics do not exist for them separately. In the case of coal, data for stocks could not be broken out for all types. The commodities and commodity groups covered are as follows:-

- Coal (excluding briquettes)
- Coal briquettes
- Crude petroleum (including casing-head gasoline)
- Natural gas
- Coke (other than petroleum and pitch coke)
- Petroleum coke
- Manufactured gas (excluding blast furnace gas)
- Liquefied petroleum gases
- Gasoline and naphtha
- Other petroleum fuels
- Fuelwood and wood waste useable as fuel
- Electricity

The detailed statements for these commodities are presented as tables 9 to 32 and additional data on inventories are given in tables 33 to 40. Notes on the material in these tables are given in the appendix.

The concepts used in these tables are as follows. On the supply side, the available supply in Canada is taken to be production within the country, plus the excess of imports over exports, plus the excess of withdrawals from stocks over new stocks laid

down. For many commodities, separate tables were prepared to show the details of the inventory statements.

On the distribution side, the use of fuel or power by establishments producing fuel or electricity has been stated separately from other uses. This was done in order to make it easier to compute a net figure for the use of fuel and electricity, in the composite tables. For instance, the available supply of coal includes coal used in producing the available supply of electricity, which includes electricity used in producing coal. The elimination of fuel and electricity used in the energy producing sector takes out this double-counting.¹

The use of fuel outside the energy-producing sector is given in as much detail as possible. Naturally, the detail varies from table to table, and these may be conceptual differences between the corresponding items of different tables. For instance, although the use of fuel would ideally be given, it has been necessary, in many cases, to use figures for purchases by the end users or of deliveries to them.

The tables contain standardized reference letters for individual items. The items bearing the same reference letter in different tables are equivalent either precisely or closely. It is necessary to read the description after the letter closely, before complete comparability can be assumed. Every item which appears in any of the commodity accounts or statements is explained in the appendix.

Standardization on the supply side proved more successful than on the distribution side of the accounts. Production was taken from Census of Industry data, except in the case of electricity where the data came from an equivalent survey, and crude petroleum and natural gas where the data were from provincial sources on a comparable basis. Imports for consumption, and exports (including re-exports) are as published in Trade of Canada, except for the export of natural gas, where another source was used. In the case of coal, landed imports were used instead of imports for consumption because the inventory data include stocks of coal held in bonded warehouses. Production and net imports are therefore on a equivalent basis throughout the series. Changes in inventories are less consistent, not all the inventories being covered in all cases, and several different approaches being used. Apart from the incomplete cover, there may be a discrepancy through definitions. However inventory changes amount to a small percentage of available supply, so any errors which may exist in the figures for inventory changes are not of major importance.

1. It has not all been eliminated, because the electricity tables include current generated by manufacturers and mines for their own use. Insofar as this was generated by steam, there is still double-counting between fuel used by industry, and the electricity supply. The Census of Industry schedules were revised for 1955, so as to find what proportion of industrial production of electricity is by steam, and what by water power.

The unity achieved on the production side depended on two major surveys, which covered almost all the field and accounted for the major part of available supply. On the distribution side, the situation was different. The Census of Industry provided data annually for most uses of fuel or electricity in the production of fuel, and for the use of fuel commodities as raw materials. The annual census of central electric stations showed the use of fuel by these establishments, and other annual censuses showed consumption by railroads, electric railways, ships and air carriers. The Census of Industry further provided, for 1948, full data on the use of fuel and electricity by manufacturers and mines. It was also the source of certain other items, including sales of coal by mines direct to consumers, and some types of waste.

For the rest, it was a case of filling in the gaps with information from other available surveys, which were mainly carried out on a commodity basis. Some, like the survey of coal and coke used by industrial consumers, were based on reports submitted by the consuming establishment. Others, like the survey of petroleum fuels, were surveys of producers and distributors. The result is that the concepts used in the distribution side of an account are liable to be heavily influenced by the nature of the available data. In some cases, figures on deliveries had to be used, instead of figures on actual consumption. Since the inventory figures do not, in practice, cover the items delivered in these cases, the difference in definition does not affect the internal consistency of the tables. On the whole, a reasonable degree of consistency exists for the main concepts involved.

The concepts used are listed below, with a note on each item where required. The identification letters are repeated throughout the tables. Every individual entry in a table is explained in the notes in the appendix.

- (a) **Production.** Mainly from Census of Industry. In the case of mining, an attempt has been made to get as close as possible to the amount actually extracted from the soil. This is geologically significant when depletion is being considered. If it is desired to exclude waste at the mine or wellhead, this can be done by the user, since the necessary facts are given elsewhere in the table concerned.
- (b) **Imports for consumption.** As published in *Trade of Canada*. In the case of coal, an alternative series for landed imports was used.
- (c) **Exports (including re-exports)**
- (d) **Net imports.** This consists of (b)-(c)
- (e) **Stocks at beginning of year.** All inventory data consist of a consolidation of the available figures.
- (f) **Stocks at end of year**
- (g) **Net decrease in stocks.** This consists of (e)-(f). The net decrease was chosen because it represents a positive contribution to available supply. It will, of course, be negative when stocks rise.

- (h) **Available domestic supply.** This consists of (a)+(d)+(g). It represents the amount made available for consumption in Canada during the year, and would be equal to consumption in Canada if the statistics were perfect.
- (i) (j) These letters were left as spares.
- (k) **Used by employees of producers.** In the case of coal, deliveries by mines to employees at lower prices.
- (l) **Retail dealers.** Sales by them to final consumers or to them by suppliers where final sales are not available.
- (m) **Used in homes.** Sales to household consumers, or deliveries for household use.
- (n) **Commercial use.** Deliveries for use by commercial consumers, such as shops.
- (o) **Lease fuel.** Natural gas used by operators and drillers of oil and gas wells.
- (p) **Used for production of fuel or electricity**
 - (p1) Coal
 - (p2) Coal briquettes
 - (p3) Natural gas
 - (p4) Crude oil
- (p5) **Coke and gas.** Includes fuel used, and coal used for conversion. These are stated separately
- (p6) **Petroleum refining.** Includes fuel used, and hydrocarbon materials used for conversion.
- (p7) **Central electric stations**
- (p8) **Other**
- (q) **Used by manufacturing industry as raw material.** This includes coke used in blast furnaces and steel furnaces, but excludes foundry coke used in cupolas.
- (r) **Used by non-fuel-producing manufacturers and mines, as fuel.** Includes coke used in base metal smelters and foundry coke used in cupolas
It equals (s)+(t)
- (s) **Used by non-fuel producing manufacturers, as fuel**
- (t) **Used by non-fuel producing mines, as fuel**
- (u) **Sub-total; - used by non-fuel producing manufacturers and mines.** This equals (q)+(r)
- (v) **Other uses.** Classification used only for items not classifiable elsewhere, either because they cover the whole range of industrial use, or because they are a miscellaneous item.
- (w) **Transportation**
 - (w1) Railroads
 - (w2) Electric Railways. Includes some motor buses.
 - (w3) Motor Vehicles.
 - (w4) Ships
 - (w5) Air Carriers
- (w6) **Pipe lines.** Includes pipe line losses
- (w7) **Line losses, electricity**
- (x) **Domestic consumption, net of waste.** This equals (k)+(l)+(m)+(n)+(o)+(p)+(u)+(v)+(w).
- (y) **Waste**
- (z) **Domestic consumption, including waste.** This equals (x)+(y).

The consolidated tables

The standardization of the tables for individual commodities has facilitated the compilation of consolidated tables for the supply of, and demand for, energy in Canada. Such consolidations are presented as tables 1 and 2.

Each column shows the supply and distribution of one commodity or commodity group, and consists of a condensation of the material given in tables 5 to 40. Explanations of individual items can be obtained from these tables, or the detailed notes on them.

Reading down each column, the composition of the supply available in Canada is first shown, broken down by production, net imports, and withdrawals from stocks. Next, use unaccounted for is taken out, to leave the total of use accounted for. Fuel used for the manufacture of other fuel, or of electricity, is then taken out, to leave the amount of fuel accounted for outside the energy-producing sector. This is broken down according to whether it was used as a raw material or as a fuel in one of several different sectors.

One major source of interest in the tables lies in observing the ratios between significant factors in the supply and distribution of an individual commodity, and in comparing the ratios for different commodities. Tables 3 and 4 present the data as percentages of the apparent available supply. An analysis of some of the more significant ratios for the two years is given below. Changes in the quantities of commodities between the two years are also important. Changes in Canadian production, and of the available supply, are examined in more detail later.

Energy - The statistical gap

For all the commodities, the apparent available supply can be assumed to be reasonably reliable. Information on the change in inventories is sometimes incomplete but this item is never more than a small part of the total supply. The available supply is therefore the best concept to use as a base for measuring the statistical gap. The measurement chosen is the percentage by which the measured portion of consumption falls short of the apparent available supply. The table below shows this shortfall, ranking the commodities according to the size of the gap (irrespective of sign) in 1952. Data obtained from surveys made for 1926, 1929, 1933 and 1939 are added to the table, to give perspective.

The first point which springs to mind is that the degree of cover was quite high in 1952, 93.4 per cent or more of the supply being accounted for on the distribution side for ten of the commodity groups, which include all the major ones. The second point is that there was a considerable increase in cover between 1939 and 1948. This was due to wartime controls, and the consequent need for additional information.

Energy balances, selected years, 1926 to 1952
Per cent by which measured portion of distribution fell short of apparent available supply

	1926	1929	1933	1939	1948	1952
Natural gas					0.04	- 0.33
Crude petroleum	- 4.1	0.4	- 3.4	0.8	1.1	0.4
Gasoline and naphtha.....	36.6	2.1	- 2.3	- 2.6	- 1.3	- 2.2
Coke (other than petroleum or pitch coke)	1	1	18.7	32.0	2.8	2.5
Manufactured gas		41.1	43.4	11.0	9.2	2.6
Coal (excluding briquettes).....	33.6	33.3	40.2	37.4	0.7	2.8
Electricity	67.7	86.1	1.7	3.0	3.1	3.0
Other petroleum fuels.....	54.1	23.4	5.8	1.1	3.0	4.7
Coal briquettes					13.1	6.0
Petroleum coke	1	1	62.9	36.0	7.0	6.6
Liquefied petroleum gases					99.2	81.5
Fuelwood	90.8	92.4	93.1	94.4	92.6	94.0

1. For coke, all types, 44.2 per cent in 1926 and 56.9 per cent in 1929.

In the case of natural gas, the balance was very close in 1952, and even after eliminating the common items from both sides of the account, it is still within one per cent. The reason for the close balance is that this commodity is metered from the well right up to the final consumer, or to the border crossing point in the case of exports. Waste and meter difference is therefore entered as a measured item of disposal. Electricity is also a metered product, but the balance, though good, was less close. One reason for this is probably that industrial use of electricity is measured directly at the individual establishment, whereas in the case of natural gas, sales by distributors to industrial consumers are used. In the case of manufactured gas, another metered product, the balance was much better in 1952, when it included deliveries for industrial use as measured at the gas works, than in 1948 when actual use at industrial establishments was included. A trial balance on natural gas for 1948 also showed a less close balance when direct measurements for industrial use were substituted for deliveries. However it was not possible to publish this series because it would disclose use as raw material by individual firms.

The balance for crude petroleum was very good in 1952, and has been good since 1926. Production is metered at the wellhead, and returns are made for administrative purposes, as well as purely statistical ones. The only domestic consumers are refineries, which return good detailed statistics, and inventories are held by a fairly small number of establishments. The balance for gasoline and naphtha was also good in 1952, and has been since 1929. Here, production is by a fairly small number of refineries, and bulk inventories are held by a

fairly small number of firms. On the distribution side, the total for consumption was obtained from returns made by taxing authorities, on the basis of administrative statistics.

In the case of other petroleum fuels, the statistical gap increased from 1939 to 1952, though the balance was still acceptable in that year. One reason for this is that the consumption side of the account relies heavily on shipment data from Canadian producers and dealers. Direct imports by consumers are therefore omitted in many cases on the consumption side, although they are, of course, included in the supply side. Direct imports by non-industrial consumers, (such as merchandising or service organizations) are excluded for all the years mentioned. In 1952, direct imports by industrial users were also excluded. For previous years these had been picked up through using Census of Industry data on actual consumption instead of shipment data from Canadian shippers.

The statistical gap for coal was greater in 1952 than in 1938, though the balance was still good. One reason for this was that industrial consumption for that year was based, not on Census of Industry data but on the monthly survey of coal used by industrial consumers. This series has a downward bias, which, in 1952, was perhaps somewhere between seven and nine per cent. In so far as non-industrial consumers import coal directly, the consumption accounted for will fall short of the available supply as in the case of other petroleum fuels. The balance for coal briquettes improved between 1948 and 1952. The balances for coke were stable and good in 1948 and 1952, and those for petroleum coke were stable and fair.

The figures for liquefied petroleum gases and for fuelwood are not sufficiently complete to approximate a balance. The tables are therefore headed "commodity statements". The figures for production of fuelwood published in *Operations in the Woods* are under revision at present, and the production figures quoted are a preliminary revision. The supply unaccounted for was probably used for domestic purposes.

Production and available supply

The following table gives index numbers for Canadian production of fuels and electricity, and of the supply apparently available within the country. Data for 1926, 1929, 1933 and 1939 are included to give perspective to the table.

**Index of the production and apparent available supply of fuels and electricity
in Canada, selected years, 1926 to 1952**
(1948 = 100)

	1926	1929	1933	1939	1948	1952
Production:						
Coal (excluding briquettes)	89.3	94.8	64.5	85.1	100.0	95.3
Coal briquettes					100.0	199.6
Crude petroleum	3.0	9.1	9.3	63.7	100.0	503.1
Natural gas	20.7	30.5	24.9	37.8	100.0	113.3
Manufactured gas	38.9	48.7	37.8	57.3	100.0	113.8
Coke (excluding petroleum or pitch coke).....	51.4	67.9	44.9	61.1	100.0	102.8
Petroleum coke	58.9	125.2	85.5	75.9	100.0	232.6
Gasoline and naphtha.....	18.0	35.6	36.6	60.1	100.0	166.3
Liquefied petroleum gases					100.0	344.2
Other petroleum fuels.....	21.0	36.5	37.6	47.2	100.0	168.2
Fuelwood and woodwaste useable as fuel	132.7	140.6	124.5	146.3	100.0	84.3
Electricity	25.7	41.3	39.6	65.5	100.0	139.9
Apparent available supply:						
Coal (excluding briquettes).....	69.4	75.5	49.4	65.6	100.0	89.7
Coal briquettes					100.0	132.9
Crude petroleum	18.0	34.4	32.3	51.6	100.0	157.2
Natural gas	29.9	31.5	25.6	38.7	100.0	110.2
Manufactured gas		48.7	37.8	57.3	100.0	113.8
Coke (excluding petroleum or pitch coke).....	64.5	85.0	54.4	66.3	100.0	99.1
Petroleum coke			29.6	69.9	100.0	138.3
Gasoline and naphtha.....	20.3	41.3	31.6	52.6	100.0	155.2
Liquefied petroleum gases					100.0	198.2
Other petroleum fuels.....	23.3	35.9	33.2	41.5	100.0	180.9
Fuelwood and wood waste useable as fuel,	133.0	140.7	124.4	145.8	100.0	84.4
Electricity	23.3	39.6	41.0	63.7	100.0	139.5

The most striking feature of the production data is the rapid increase between 1948 and 1952 in the output of crude petroleum and its products. This marked an acceleration in a long-run trend. Electricity showed a substantial increase, following a long-run trend. Gas, both natural and manufactured, showed a moderate increase as part of a long-run trend. The production of coal declined, but com-

pared with other fuels, its production was remarkably steady over the long run. The output of fuelwood declined, in accordance with trend.

The following table shows this Canadian production of fuel and electricity as a percentage of the supply apparently available.

Canadian production of fuel and electricity as a percentage of the apparent available supply in Canada, selected years, 1926 to 1952

	1926	1929	1933	1939	1948	1952
Coal (excluding briquettes).....	51.5	50.2	52.2	51.8	40.0	42.5
Coal briquettes					55.2	82.9
Crude petroleum	2.3	3.6	4.0	17.0	13.7	44.0
Natural gas	99.8	99.5	99.9	100.5	102.8	105.7
Manufactured gas ¹		100.0	100.0	100.0	100.0	100.0
Coke (excluding petroleum and pitch coke)	69.1	70.4	75.2	83.9	91.1	94.5
Petroleum coke			77.2	29.0	26.7	45.0
Gasoline and naphtha.....	73.9	72.3	97.2	95.6	83.7	89.8
Liquefied petroleum gases					28.8	50.0
Other petroleum fuels.....	74.1	83.4	93.0 ²	93.3	82.1	76.3
Fuelwood	100.1	100.3	100.4	100.6	100.3	100.2
Electricity	114.1	108.1	100.0	106.6	103.6	103.9

1. Excludes blast furnace gas.

2. Includes some naphtha.

In 1952, Canada was self-sufficient in electricity, fuelwood, natural gas and manufactured gas. Domestic sources furnished over three-quarters of her requirements of coke from coal. Canadian refineries supplied over three-quarters of liquid petroleum products other than liquefied gases, and Canadian wells supplied 44 per cent of their feed. Home production supplied between 42 and 50 per cent of the requirements of the remaining fuels.

The proportion of coal supplied by Canadian mines was lower by about 10 percentage points than the proportion supplied during the four pre-war years chosen. The post-war years showed no pronounced trend in the proportion, although the domestic supply decreased by 10.3 per cent¹. The market for briquettes was, however, supplied much more fully by Canadian plants in 1952 than in 1948, a larger market being accompanied by smaller imports.

In the case of crude petroleum, the share supplied by domestic sources more than trebled between 1948 and 1952. The available supply increased by 57.2 per cent during this period, and most of the increase was met by a gain of 403.1 per cent in the output of Canadian wells, although imports also increased a little. This increase in supply went to meet increased demand from Canadian refineries, which increased their input of crude oil by 58.0 per cent from 3,092 million gallons in 1948 to 4,885 million gallons in 1952. This increased input was associated with an increase of 66.3 per cent in

Canadian production of gasoline and naphtha, 132.6 per cent in petroleum coke, 244.2 per cent in liquefied petroleum gases (not all of which was from petroleum refineries) and 68.2 per cent in other petroleum fuels. Canadian refineries increased their share in the domestic market for gasoline and naphtha, liquefied petroleum gases, and petroleum coke, but met a smaller part of the demand for other petroleum fuels in 1952 than they had done in 1948. One reason for this was that the economy called for an increase in the supply of gasoline and naphtha by 55.2 per cent over the four years, while the supply of other petroleum fuels went up by 80.9 per cent. While imports of gasoline and naphtha went down, imports of fuel oil went up. When the pre-war years are also considered, Canada appears to have been less self-sufficient in the major petroleum products in 1952 than she was before the Second World War. In the case of gasoline and petroleum coke, a lower proportion of the available supply was met by domestic production in 1952 than in 1933. In the case of other petroleum fuel, self-sufficiency was less in 1952 than in 1929.

Output of natural gas increased by 13.3 per cent from 1948 to 1952, increasing faster than the supply retained in Canada.

In the case of manufactured gas, Canadian plants are the only source of supply. Their output went up by 13.8 per cent during the four years. This output was accompanied by a small increase, by 2.8 per cent, in the production of coke from coal. Requirements of coke from coal decreased by 0.9 per cent, the difference being made up by a slight decrease in imports, and a considerable increase in exports.

1. In 1953, after a further decline in supply by 5.2 per cent, the percentage from Canadian mines was 40.5 per cent.

Production of fuelwood is approximately equal to Canada's requirements. It dropped by 15.7 per cent from 1948 to 1952. The 1948 production was itself considerably below the pre-war level in volume.

Production of electricity is somewhat greater than Canada's requirements, since 3.8 per cent of production was exported in 1952. Canadian requirements increased by 39.5 per cent from 1948 to 1952.

Use of fuel within the energy-producing sector

In order to facilitate the elimination of double-counting, when preparing a statement for the net use of fuel as such, the use of fuel and electricity within the energy-producing sector was broken out separately in the accounts. The table below shows this use as a percentage of the apparent available supply. Data for 1926, 1929, 1933 and 1939 are included to give historical perspective.

Measured use of fuel and electricity within the energy-producing sector as a percentage of the apparent available supply in Canada, selected years, 1926 to 1952

	1926	1929	1933	1939	1948	1952
Coal (excluding briquettes)	14.1	15.7	15.8	14.5	15.4	18.9
Crude petroleum.....	104.1	99.6	103.4	99.1	98.8	99.3
Natural gas.....	20.5	21.9	11.7	23.4	12.9	15.8
Manufactured gas ²		23.2	32.8	47.7	33.6	35.2
Coke (excluding petroleum and pitch coke).....	5.6	6.7	9.4	8.3	9.6	7.7
Petroleum coke			20.7	1.8	2.5	11.6
Gasoline and naphtha	0.2	1	0.1	0.3	0.1	1
Liquefied petroleum gases.....					0.8	18.0
Other petroleum fuels	14.1	14.2	12.6	11.0	10.4	7.6
Fuelwood	1	1	1	1	1	—
Electricity	1.5	1.2	1.1	1.0	1.0	1.0

1. Less than 0.05 per cent.
2. Excludes blast furnace gas.

Six commodity groups reported a higher proportion of use within the energy-producing sector in 1952 than in 1948. In the case of coal, this proportion increased by over a fifth, because increases in use for the production of electricity, briquettes, and coke coincided with a decrease in other types of use. In the case of natural gas, an increase in the amount used in absorption plants and central electric stations between 1948 and 1952 more than offset a decrease in use by the natural gas industry itself. Use by central electric stations increased by 173.9 per cent between 1948 and 1952.

The proportion of manufactured gas going to the energy sector increased between 1948 and 1952, because an 83.4 per cent increase in the amount of still gas used by petroleum refineries more than offset the decrease in gas used by coke and gas plants. Between 1939 and 1948 on the other hand, both types of use within the energy sector increased, but less rapidly than the available supply.

The proportion of petroleum coke used within the energy-producing sector increased by 1952 to over four times its 1948 value. This was partly due to a substantial increase in the share of the market held by domestic manufacturers, and partly to the fact that they were consuming a higher proportion of their own coke. The substantial increase in the measured proportion of liquefied petroleum gases used in the energy sector was due to an increase in the measured use by coke and gas plants, mainly if not all for resale. The portion of other petroleum fuels used within the energy-producing sector decreased, because the quantity so used increased much more slowly than the available supply. This ratio has shown a long-run tendency to decline.

The proportion of electricity used for the production of energy remained stable. The proportions of gasoline and naphtha, and of fuelwood so used were negligible.

Use of fuel and electricity as such, outside the energy-producing sector

The use of fuel and electricity, as such not as raw materials, outside the energy-producing sector provides an approximation to the net use of energy as such, for input purposes. (The net use of energy in the sense of energy effectively applied lies beyond the scope of straightforward measurement). The table below expresses this as a percentage of the available supply, by commodity group. Data for liquefied petroleum gases and fuelwood are excluded since the large amounts not accounted for would make the table misleading. Petroleum coke is excluded, because some use as fuel was probably included under other coke, and the proportions measured are probably misleading.

Measured use of fuel and electricity as such, outside the energy-producing sector, as a percentage of the apparent available supply in Canada 1948 and 1952

	1948	1952
Coal (excluding briquettes)	84.3	76.6
Coal briquettes.....	86.9	94.0
Crude petroleum	—	0.2
Natural gas	49.1	67.8
Manufactured gas ¹	57.2	62.2
Coke (excluding petroleum and pitch coke)	34.3	24.8
Gasoline and naphtha.....	100.5	99.6
Other petroleum fuels	86.5	86.8
Electricity.....	95.9	96.0

1. Excludes blast furnace gas.

The sharp decline in the portion of the coal supply apparently going to net use as fuel was due to the fact that use within the energy sector, and as a raw material, increased while the total supply dropped by 10.3 per cent. The increase in the measured proportion of coal briquettes used as fuel is due to the fact that measurements improved.

Use of crude petroleum appears in the table, because pipeline fuel and losses were reckoned as a transportation use. The greater proportion of natural gas used as fuel was influenced both by marketing trends, and by the fact that the available supply included much less waste in 1952 than in 1948, when Atlantic No. 3 well was on fire. Use by industrial consumers included use as a raw material, as well as fuel. The increase in the proportion of manufactured gas measured as fuel was partly due to fuller statistical cover in 1952.

The reasons for the decrease in the proportion of coke disposal measured as fuel were complex.

Sales through retail fuel dealers dropped heavily. Measured use by manufacturers and mines also declined somewhat, but if the same statistical approach had been used for both years, this drop would probably have been greater. So far as uses other than net use as fuel were concerned, uses by coke and gas plants declined, though the effect of this was offset in part by an increase in the amount used as raw materials.

Except for a small industrial use as solvents or cleansers, and a small amount recorded as used by energy producers, gasoline and naphtha all go to net use as fuel. Except for 0.1 per cent which went into the energy sector, all electricity was used as an energy source, line losses being reckoned a transportation item. Measured use is less than 99.9 per cent because measurement was incomplete.

Conversion into British Thermal Units

Tables 5 and 6 consist of the data in tables 1 and 2, converted into British Thermal Units. The conversion factors used were as follows:-

	Unit	Millions of B.T.U.'s per unit
Coal, anthracite	ton	26
bituminous.....	ton	27
sub-bituminous	ton	19
lignite	ton	16
Coke, petroleum	ton	30.12
other	ton	25
Oil, crude.....	imperial gallon	0.17
Gasoline and naphtha.....	imperial gallon	0.15
Liquefied petroleum gases	imperial gallon	0.1146
Other petroleum fuels.....	imperial gallon	0.17
Natural gas	thousand cubic feet	1
Manufactured gas	thousand cubic feet	0.5
Fuelwood	cord	20
Electricity	thousand k.w.h.	3.412

In order to convert the coal figures, special tables were made up, which broke down tables 9 and 10 into their component types of coal as far as was practicable. The result was to weight the figures for coal according to the type, as accurately as possible.

A total for all items on each row is given whenever they can be added up without double-counting. It is not possible to add the available supply of all items, nor their production, since some fuels are made from others. Coke, for instance is made from coal or oil, and its energy value cannot be added to the total for theirs without double-counting. The available supply of primary fuels can, however, be added to give a significant total. Imports can be totalled, because imported manufactured fuels, such as gasoline or coke, are not produced from oil or coal which makes part of the Canadian supply. The

total for imports cannot, however, be added to the totals for other concepts.

So far as the consumption of fuel and electricity is concerned, use outside the energy-producing sector can be added up. For instance, the total for coal used outside that sector excludes the amounts used for producing coke, or electricity. There is still some double-counting involved, but it is slight. It arises because some of the fuel used by manufacturers and mines goes to generate electricity for use within the plants. What proportion of industrial generation of electricity is by steam, and what proportion by water power, is not known. However, the whole amount is not much over a tenth of the total electricity supply, and the steam generation is probably less than a twentieth of this total supply. Census of Industry questionnaires have been revised so as to provide for the elimination of this double-counting as from 1955. The individual items of use outside the energy-producing sector can also be added up.

Comparison of tables 5 and 6 shows considerable changes in the energy pattern. When interpreting these changes, it should be remembered that what is being measured is the B.T.U's. consumed, not the B.T.U's. effectively applied as energy. Thus, a thousand B.T.U's. of electricity applied to an electric motor will produce more effective applied energy than a thousand B.T.U's. of coal burnt in a boiler to raise steam to drive a steam engine. The significance of this is brought out by the fact that the imputed consumption of energy sources as such outside the energy-producing sector in Canada was 150.9 million B.T.U's. per head in 1948, and 150.5 million in 1952. This steadiness in consumption per head was accompanied by a pronounced change in the mixture of fuel and electricity used, which makes the figure for B.T.U's. consumed an inadequate guide when considered by itself.

The changes in total B.T.U's. for the main concepts are given in the table below.

Change in total measured energy, for selected economic concepts, 1948 and 1952

	1948	1952	Change	Percentage change
	(billions of B.T.U's)			(per cent)
Net imports	1,389,649	1,310,097	- 79,552	- 5.7
Use accounted for outside the energy-producing sector	1,857,899	2,087,208	+ 229,309	+ 12.3
Use accounted for as raw material	74,208	93,570	+ 19,362	+ 26.1
Measured portion of use as fuel or electricity outside the energy-producing sector	1,783,691	1,993,638	+ 209,947	+ 11.8
Of which:				
Households and commercial	559,514	616,405	+ 56,891	+ 10.2
Manufacturing and mining	530,143	575,398	+ 45,255	+ 8.5
Transportation.....	637,713	765,982	+ 128,269	+ 20.1
Other.....	967	4,032		
Non-assignable	55,354	31,821		

It will be noted that net imports of fuel declined by 5.7 per cent, in terms of B.T.U's., while use accounted for outside the energy-producing sector increased by 12.3 per cent. Use as a raw material increased by 26.1 per cent, a much faster rate than the 11.8 per cent increase for net use as fuel or electricity.

When mineral fuels alone are considered, production and apparent available supply can be added up without double-counting. A presentation of the data for these, showing the composition of the apparent available supply, is given below, together with a percentage distribution.

Production, net imports, net change in stocks and apparent available supply of mineral fuels in Canada, 1948 and 1952

	(billions of B.T.U's)							
	Production		Net imports		Net decrease in stocks		Apparent available supply	
	1948	1952	1948	1952	1948	1952	1948	1952
Coal (excluding briquettes)	480,661	451,715	794,407	645,505	- 51,805	- 5,988	1,223,463	1,091,232
Crude petroleum	73,106	367,812	470,012	487,889	- 11,188	- 19,495	531,930	836,206
Natural gas	92,960	105,364		404	- 2,164	- 2,955	90,409	99,664
Total mineral fuels	646,727	924,891	1,264,823	1,131,230	- 63,748	- 29,019	1,845,802	2,027,102
Per cent of apparent available supply	35.0	45.6	68.5	55.8	3.5	1.4	100.0	100.0

**Production, net imports, net change in stocks and apparent available supply of mineral fuels in Canada,
1948 and 1952**

(Per cent of total mineral fuels)

	Production		Net imports		Net decrease in stocks		Apparent available supply	
	1948	1952	1948	1952	1948	1952	1948	1952
Coal	74.3	48.8	62.8	57.1	78.5	20.6	66.3	53.8
Crude petroleum	11.3	39.8	37.2	43.1	17.0	67.2	28.8	41.3
Natural gas	14.4	11.4	1	- 0.2	4.5	12.2	4.9	4.9
Total mineral fuels	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1. Less than .05 per cent.

Coal made up 66.3 per cent of the apparent available supply of mineral fuels in 1948, and 53.8 per cent in 1952. Crude petroleum rose from 28.8 to 41.3 per cent, and natural gas remained steady at 4.9 per cent. These changes were the results of a decrease of 10.3 per cent in the supply of coal, accompanied by an increase of 57.2 per cent in the supply of crude petroleum and an increase of 10.2 per cent in that of natural gas. Net imports declined from 68.5 per cent of the apparent available supply of mineral fuels in 1948 to 55.8 per cent in 1952, indicating a greater degree of self-sufficiency. Domestic production rose from 35.0 per cent of apparent available supply to 45.6 per cent in 1952. Increases in stocks took an amount equivalent to 3.5 per cent of the available supply in 1948, and 1.4 per cent in 1952.

Tables 7 and 8 show the percentages of various concepts which were made up of the different commodity groups. These tables are, of course, confined to the concepts which are free from double-counting (except insofar as fuel used by manufacturers or mines to generate electricity is concerned).

It is noticeable that coal and briquettes declined from 57.7 per cent of the B.T.U. equivalent of imports in 1948 to 49.6 per cent in 1952, while liquid petroleum fuels rose from 7.6 per cent to 13.0 per cent, and crude petroleum rose from 33.8 per cent to 37.2 per cent. Imports of coal to plants manufacturing fuel or electricity declined from 24.2 per cent of the total B.T.U. equivalent in 1948 to 18.5 per cent in 1952, while the proportion made up of crude petroleum rose from 67.1 per cent to 73.9 per cent.

So far as the net use of fuel and electricity is concerned (i.e. measured use outside the energy-producing sector), the main data are given below for 1948 and 1952. Since only a small proportion of the use of fuelwood and of liquefied petroleum gases was measured, the individual figures have been left out of this summary, although included in tables 7 and 8. Here as elsewhere, it is necessary to remember that the figures are for measured use, not necessarily for all use.

Fuels and electricity expressed as a percentage of the Canadian total of use accounted for¹ outside the energy-producing sector in selected ways, 1948 and 1952

Item	Item as percentage of use of all fuel and electricity accounted for ¹					
	As raw materials		As fuel outside the energy-producing sector		As raw materials and as fuel outside the energy-producing sector	
			1948	1952	1948	1952
Coal (excluding briquettes)	3.2	3.6	58.1	42.5	55.9	40.8
Coal briquettes	-	-	0.8	1.1	0.8	1.0
Crude petroleum	-	-	-	0.1	-	0.1
Natural gas	-	-	2.5	3.4	2.4	3.2
Coke (except petroleum and pitch coke)	77.8	74.5	2.1	1.3	5.1	4.6
Petroleum coke	11.9	11.8	2	2	0.5	0.5
Manufactured gas	-	-	1.4	1.5	1.3	1.5
Gasoline and naphtha	2.2	1.9	12.6	17.3	12.2	16.6
Other petroleum fuels	0.4	0.4	13.7	22.3	13.2	21.3
Electricity	-	-	8.4	10.5	8.0	10.0
Total of items included in the table¹	95.5	92.2	99.6	100.0	99.4	99.6

1. N.B. Only small proportions of the total use of liquefied petroleum gases, and of fuelwood were measured. Consequently, the figures for them have not been quoted separately in this table. All the figures quoted are higher than they would be if the contribution of the fuel to the total actually used was in question.

2. Less than 0.05 per cent.

So far as total measured use outside the energy-producing sector is concerned, the use of coal and briquettes dropped from 56.7 per cent in 1948 to 41.8 per cent in 1952. The use of gasoline, naphtha, and fuel oils rose from 25.4 per cent to 37.9 per cent, fuel oils coming ahead faster than gasoline and naphtha. The proportional increase for these petroleum fuels was due to use as fuel, measured use as raw materials declining as a percentage of the whole. The percentage contribution of electricity also increased, from 8 per cent to 10 per cent for net use as a whole. In terms of energy effectively

applied, the significance of this change to Canada was greater than the B.T.U. figures indicate.

The changes in significance of the major fuel groups are shown by the tables below. Fuels are divided into three groups:- coal and its products, petroleum and natural gas and their products, and fuelwood and wood waste useable as fuel. (Pintsch gas was taken out of the manufactured gas total, and put with petroleum products). Electricity is also shown.

Measured contribution of coal and its products, petroleum and natural gas and their products, fuelwood and electricity, to key concepts in the Canadian energy pattern, 1948 and 1952

(billions of B.T.U.'s)

	Coal and its products		Petroleum and natural gas and their products		Fuelwood ¹ and wood waste useable as fuel		Electricity		Total	
	1948	1952	1948	1952	1948	1952	1948	1952	1948	1952
Net imports	812,162	655,582	583,600	663,251	- 461	- 297	- 5,652	- 8,439	1,389,649	1,310,097
Used by central electric stations	24,924	32,071	6,894	10,777	-	-	-	-	31,818	42,848
Measured use outside the energy-producing sector.....	1,173,866	999,909	524,111	871,538	10,636	7,308	149,286	208,461	1,857,899	2,087,208
Use accounted for as raw material	60,085	73,096	10,758	13,185	3,365	7,289	-	-	74,208	93,570
Measured use as fuel or electricity outside the energy-producing sector:- total	1,113,781	926,813	513,353	858,345	7,271	19	149,286	208,461	1,783,691	1,993,638
Households and commercial	403,224	323,805	131,932	250,870	-	-	24,358	41,730	559,514	616,405
Manufacturing and mining	331,835	306,446	84,583	128,435	7,194	-	106,531	140,517	530,143	575,398
Transportation	375,063	296,314	245,281	447,584	77	19	17,292	22,065	637,713	765,982
Other	-	-	67	127	-	-	900	3,905	967	4,032
Non-assignable.....	3,659	248	51,490	31,329	-	-	205	244	55,354	31,821

1. N.B. only a small proportion of actual use was measured.

Measured contribution of coal and its products, petroleum and natural gas and their products, fuelwood and electricity, to key concepts in the Canadian energy pattern, 1948 and 1952

(per cent of Canada total)

	Coal and its products		Petroleum and natural gas and their products		Fuelwood ¹ and wood waste useable as fuel		Electricity		Total	
	1948	1952	1948	1952	1948	1952	1948	1952	1948	1952
Net imports.....	58.4	50.1	42.0	50.5	2	2	- 0.4	- 0.6	100.0	100.0
Used by central electric stations.....	78.3	74.9	21.7	25.1	-	-	-	-	100.0	100.0
Measured portion of use, outside the energy-producing sector	58.0	47.9	33.4	41.7	0.6	0.4	8.0	10.0	100.0	100.0
Use accounted for as raw materials	81.0	78.1	14.5	14.1	4.5	7.8	-	-	100.0	100.0
Measured portion of use as fuel or electricity outside the energy-producing sector: - total	62.4	46.4	28.8	43.1	0.4	2	8.4	10.5	100.0	100.0
Households and commercial	72.1	52.5	23.6	40.7	-	-	4.3	6.8	100.0	100.0
Manufacturing and mining.....	62.6	53.3	15.9	22.3	1.4	-	20.1	24.4	100.0	100.0
Transportation	58.8	38.7	38.5	58.4	2	2	2.7	2.9	100.0	100.0
Non-assignable	6.6	0.8	93.0	98.4	-	-	0.4	0.8	100.0	100.0

1. N.B. Only a small proportion of actual use was measured.

2. Less than 0.05 per cent.

In the case of imports, coal and its products dropped from 58.4 per cent in 1948 to 50.1 per cent of a lower total in 1952. Increased imports of the petroleum group brought their share up from 42.0 per cent to 50.5 per cent. So far as consumption was concerned, the quantity of the coal group used declined in the case of all the concepts stated, except use as a raw material which increased. Use of the oil group increased for all the concepts stated except for non-assignable use. In terms of proportions of the total, coal and its products decreased for all the concepts stated, and the proportional contribution of oil and its products rose except in the case of raw materials. The measured use of wood waste as a raw material increased sharply, both in amount and as a proportion. Use of electricity for all the concepts stated increased both in amount and proportionately. In terms of energy effectively applied, electricity would make up a higher proportion than it does of energy input.

So far as use as fuel outside the energy-producing sector is concerned, the decrease in the use of the coal group by manufacturers and mines was much less than the decrease in its household and commercial use, or its use in transportation. The increase in the use of the oil group was also less in the case of industry than in the other two groups.

Energy available per head

The consolidated tables, numbers 5 and 6, do not specifically state the total amount of energy available in Canada. Totals are given for use in the manufacture of fuel and electricity and for the measured portion of use outside the energy-producing sector, but a fair portion of use is unaccounted for. An estimate of total energy use can, however, be arrived at through these tables. If the line for "apparent available supply" is added up, and the total of use for manufacture of fuel or electricity is deducted from this, the balance can be assumed to be the amount available. The sum of the apparent available supply has no meaning in itself, but its use in this intermediate step is justifiable because the subsequent deduction of use in the energy-producing sector takes out the double-counting.

The question of whether waste should then be deducted depends on the purpose for which the available supply is required. In the table below it has been deducted, but this is not essential to this particular method of approach. The table also gives figures for use as an energy source only, after the deduction of use as raw materials.

**Use of fuel commodities and electricity per head of population in Canada,
selected years, 1929 to 1952**

	Population at 1 June	Imputed consumption ¹	Imputed consumption per head	Imputed consumption as energy sources ²	Imputed consumption as energy sources, per head
	Thousands of persons	Billions of B.T.U.'s	Millions of B.T.U.'s	Billions of B.T.U.'s	Millions of B.T.U.'s
1929	10,029	1,291,291	128.8	1,268,942	126.5
1933	10,633	946,589	89.0	936,625	88.1
1948	12,823	2,098,737	156.6	1,934,529	150.9
1952	14,430	2,264,865	157.0	2,171,295	150.5

1. Apparent available supply, less waste and use in energy-producing sector.

2. Apparent available supply, less waste, use in energy-producing sector, and use as raw material.

A long-run increase in the use of energy per head since 1929 is indicated, with a considerable dip during the depression. The stability of the figures between 1948 and 1952 does not necessarily imply that the actual effective application of energy remained steady. Between these years there was a considerable change in the input mix, with the proportion supplied by petroleum fuels and electricity increasing. The result was that the energy effectively applied per B.T.U. of input probably increased.

The degree of processing of mineral fuels

One point of interest is whether use of mineral fuels is tending towards materials of higher or lower degree of processing. The table below shows measured use outside the energy-producing sector, divided between unmanufactured mineral fuels and their products. The distinction between these two types is whether the fuel has undergone a chemical change or not. Processing such as cleaning or briquetting is not regarded as manufacture in this context.

**Measured use outside the energy-producing sector of mineral fuels and their fuel products,
1948 and 1952**

	Coal (including briquettes), natural gas, and crude oil		Products of petroleum and coal		Total	
	Billions of B.T.U's	Per cent of total	Billions of B.T.U's	Per cent of total		
Measured use as raw material	1948	2,368	3.3	68,475	96.7	70,843
	1952	3,335	3.9	82,946	96.1	86,281
Measured use as fuel outside the energy-producing sector	1948	1,096,416	67.4	530,718	32.6	1,627,134
	1952	959,047	53.1	846,111	46.9	1,805,158
Total measured use outside the energy-producing sector	1948	1,098,784	64.7	599,193	35.3	1,697,977
	1952	962,382	50.9	929,057	49.1	1,891,439

It is apparent that there was a tendency towards greater use of manufactured fuels between 1948 and 1952 so far as mineral fuels are concerned. The manufactured fuels accounted for 35.3 per cent of measured net use in 1948, and 49.1 per cent in 1952. In terms of B.T.U. equivalents, consumption of unmanufactured mineral fuels decreased by 12.4 per cent, while that of manufactured mineral fuels increased by 55.1 per cent. The change in the pattern was caused mainly by changes in use as fuel. In the case of raw materials, there was no significant change in the percentage distribution between manufactured and unmanufactured mineral fuels.

The change in balance between manufactured and unmanufactured mineral fuels was due to the change in emphasis between coal and petroleum. The tables below bring this point out. Within both groups there was a small change towards greater use of manufactured fuels, but nothing like the change in total. The reason for the big swing in that is that coal is largely consumed in an unmanufactured form, whereas the petroleum group is mainly consumed in manufactured form. Total measured use outside the energy-producing sector of coal and its products decreased by 13.1 per cent from 1948 to 1952, while use of petroleum and natural gas, and their products, increased by 66.3 per cent.

**Measured use outside the energy-producing sector of coal and its fuel products,
1948 and 1952**

	Coal and briquettes		Coke from coal, and manufactured gas (excl. Pintsch gas and still gas)		Total	
	Billions of B.T.U's.	Per cent of total	Billions of B.T.U's.	Per cent of total		
Measured use as raw material	1948	2,368	3.9	57,717	96.1	60,085
	1952	3,335	4.6	69,761	95.4	73,096
Measured use as fuel outside the energy-producing sector	1948	1,051,987	94.4	61,794	5.6	1,113,781
	1952	889,731	94.0	57,082	6.0	946,813
Total measured use outside the energy-producing sector	1948	1,054,355	89.8	119,511	10.2	1,173,866
	1952	893,066	87.6	126,843	12.4	1,019,909

Measured use outside the energy-producing sector of crude petroleum, natural gas, and their fuel products,
1948 and 1952

	Crude petroleum and natural gas		Petroleum fuel products ¹		Total	
	Billions of B.T.U's	Per cent of total	Billions of B.T.U's	Per cent of total		
Measured use as raw material	1948	2	—	10,758	100.0	10,758
	1952	2	—	13,185	100.0	13,185
Measured use as fuel outside the energy-producing sector	1948	44,429	8.6	468,924	91.4	513,353
	1952	.. 69,316	8.1	789,029	91.9	858,345
Total measured use outside the energy-producing sector	1948	44,429	8.5	479,682	91.5	524,111
	1952	69,316	8.0	802,214	92.0	871,530

1. Petroleum coke, liquefied petroleum gases, Pintsch gas, gasoline and naphtha, and other petroleum fuels.
2. Use of natural gas as a raw material is included with use as fuel by manufacturing industry.

DETAILED TABLES

TABLE 1. Supply and Distribution of Fuel and Electricity in Canada, 1948

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
		(tons)	(tons)	(thousands of imperial gallons)	(thousands of cubic feet)
1	Production in Canada	18,449,689	356,195	430,033	92,959,550 ²
2	Net imports	29,608,758	308,708	2,764,779	404,046
3	Net decrease in measured stocks	-1,917,621	-19,477	-65,812	-2,955,356
4	Apparent supply available in Canada	46,140,826	645,426	3,129,000	90,408,240
5	Use unaccounted for	-312,112	84,581	35,101	35,726
6	Use accounted for in Canada, including waste.....	46,452,938	560,845	3,093,899	90,372,514
7	Waste accounted for	341,142	-	1,326	34,356,281
8	Use accounted for in Canada, net of waste.....	46,111,796	560,845	3,092,573	56,016,233
9	Use accounted for in manufacture of fuel or electricity...	7,068,796	-	3,092,573	11,587,695
10	(1) coal mining.....	544,286	-	-	2
11	(2) coal briquette plants at mines.....	302,545	-	-	-
12	(3) natural gas	3	-	-	4,434,184 ³
13	(4) crude oil	233	-	77	
14	(5) coke and gas	5,267,780	-	-	
15	(6) petroleum refining	2,703	-	3,092,496	5,413,620
16	(7) central electric stations.....	951,246	-	-	1,739,889
17	(8) other	-	-	-	-
18	Measured portion of use outside the energy-producing sector	39,043,000	560,845	-	44,428,538
19	Measured portion of use as raw materials	115,363	-	-	- ⁴
20	Measured portion of use as fuel or electricity outside the energy-producing sector.....	38,927,637	560,845	-	44,428,538
21	(1) households	13,672,228	449,480	-	20,992,397
22	(2) commercial			-	9,831,775
23	(3) manufacturing			- ¹	12,825,474 ⁴
24	(4) mining	385,996	- ¹	-	
25	(5) transportation	13,915,656	111,365	-	
26	(6) other	-	-	-	557,364
27	(7) non-assignable	-	-	-	66,500 ⁵
					155,028 ⁶

1. Some industrial use may have been recorded as bituminous coal.

2. Includes waste gas, and gas from a burning well.

3. Includes lease fuel, in Alberta.

4. Use as raw material is included with consumption by manufacturing and mining.

5. Used by private well owners in Ontario.

6. Miscellaneous sales by distributors.

TABLE 1. Supply and Distribution of Fuel and Electricity in Canada, 1948

Coke (except petroleum and pitch coke)	Petroleum coke	Manufactured gas ⁷	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	
(tons)	(tons)	(thousands of cubic feet)	(thousands of imperial gallons)	(thousands of imperial gallons)	(thousands of imperial gallons)	(cords)	(thousands of kilowatt hours)	No.
3,945,776	87,438	86,339,076	10,880	1,246,806	1,364,339	7,237,693	47,258,872	1
376,782	274,713	—	26,941 ⁸	266,011	358,631	-23,030	-1,656,717	2
8,644	-35,155	—	—	-23,976	-61,428	—	—	3
4,331,202	326,996	86,339,076	37,821	1,488,841	1,661,542	7,214,663	45,602,155	4
122,151	22,775	7,920,119	37,511	-19,951	49,955	6,682,569	1,401,962	5
4,209,051	304,221	78,418,957	310	1,508,792	1,611,587	532,094	44,200,193	6
—	—	—	—	—	—	—	—	7
4,209,051	304,221	78,418,957	310	1,508,792	1,611,587	532,094	44,200,193	8
416,072	8,225	28,993,243	310	1,832	172,192	302	446,833	9
—	—	15	—	873	964	107	250,714	10
—	—	—	—	—	—	—	—	11
—	—	—	—	20	75	—	999	12
—	—	—	—	197	161	65	2,963	13
416,072	—	18,379,417	310	177	16,985	70	59,177	14
—	8,225	10,613,805	—	528	122,961	60	132,980	15
—	—	6	—	37	30,279	—	—	16
—	—	—	—	—	767	—	—	17
3,792,979	295,996	49,425,714	—	1,506,960	1,439,395	531,792	43,753,360 ⁹	18
2,308,706	293,792	—	—	10,950	1,564	168,251	—	19
1,484,273	2,204	49,425,714	—	1,496,010	1,437,831	363,541	43,753,360	20
} 648,733	2,204	16,595,145	—	—	594,364	—	4,984,280	21
		4,975,321	—	—		—	2,154,853	22
698,755	—	27,018,981	—	39,156	362,894	308,997	29,297,223 ⁹	23
1,411	—	234,513	—	4,275	20,888	50,699	1,925,351 ⁹	24
—	—	51,090	—	1,153,234	421,840	3,845	5,068,036 ¹⁰	25
135,374	—	550,664	—	299,345	37,845	—	263,639 ¹¹	26
						—	59,978 ¹²	27

7. Excludes blast furnace gas.

8. Estimated on the basis of the value of imports in 1948, and of the quantity and value in 1952.

9. To eliminate double-counting between columns for this item, it would be necessary to deduct thermal electricity generated by industry for its own use.

10. Includes line losses.

11. Street lighting.

12. Free service.

TABLE 2. Supply and Distribution of Fuel and Electricity in Canada, 1952

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
		(tons)	(tons)	(thousands of imperial gallons)	(thousands of cubic feet)
1	Production in Canada	17,579,002	711,093	2,163,602	105,364,486 ²
2	Net imports	24,040,264	155,343	2,869,935	-2,163,607
3	Net decrease in measured stocks	-227,557	-8,532	-114,677	-3,536,353
4	Apparent supply available in Canada	41,391,709	857,904	4,918,860	99,664,526
5	Use unaccounted for	1,139,193	51,767	21,844	-329,290
6	Use accounted for in Canada including waste	40,252,516	806,137	4,897,016	99,993,816
7	Waste accounted for	550,506	-	1,520	16,678,023
8	Use accounted for in Canada, net of waste	39,702,010	806,137	4,895,496	83,315,793
9	Use accounted for in manufacture of fuel or electricity	7,831,248	-	4,885,440	15,708,444
10	(1) coal mining	435,686	-	-	-
11	(2) coal briquette plants at mines	628,606	-	-	-
12	(3) natural gas	-	-	-	3,249,687 ³
13	(4) crude oil	-	-	499	
14	(5) coke and gas	5,459,354	-	-	
15	(6) petroleum refining	-	-	4,884,941	7,693,301
16	(7) central electric stations	1,307,602	-	-	4,765,456
17	(8) other	-	-	-	-
18	Measured portion of use outside the energy-producing sector	31,870,762	806,137	10,056	67,607,349
19	Measured portion of use as raw materials	165,729	-	-	- ⁴
20	Measured portion of use as fuel or electricity outside the energy-producing sector	31,705,033	806,137	10,056	67,607,349
21	(1) households	11,019,705	291,407	-	28,392,449
22	(2) commercial			-	14,935,855
23	(3) manufacturing	10,064,464	-1	-	22,677,481 ⁴
24	(4) mining			-	
25	(5) transportation	10,620,864	514,730	10,056	1,347,876
26	(6) other	-	-	-	126,500 ⁵
27	(7) non-assignable	-	-	-	127,188 ⁶

1. Some industrial use may have been recorded as bituminous coal.

2. Includes waste gas.

3. Includes lease fuel, in Alberta.

4. Use as raw material is included with consumption by manufacturing and mining.

5. Used by private well owners in Ontario.

6. Miscellaneous sales by distributors.

TABLE 2. Supply and Distribution of Fuel and Electricity in Canada, 1952

Coke (except petroleum and pitch coke)	Petroleum coke	Manufactured gas ⁷	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	
(tons)	(tons)	(thousands of cubic feet)	(thousands of imperial gallons)	(thousands of imperial gallons)	(thousands of imperial gallons)	(cords)	(thousands of kilowatt hours)	No.
4,056,655	203,388	98,297,792	37,449	2,073,188	2,294,472	6,104,104	66,100,534	1
235,314	229,622	—	37,694	201,025	792,950	-14,857	-2,473,225	2
-794	19,100	—	-197	35,729	-82,238	—	—	3
4,291,175	452,110	98,297,792	74,946	2,309,942	3,005,184	6,089,247	63,627,309	4
108,614	29,870	2,568,604	61,108	-50,244	165,035	5,723,834	1,909,808	5
4,182,561	422,240	95,729,188	13,838	2,360,186	2,840,149	365,413	61,717,501	6
—	—	—	—	45,759	—	—	—	7
4,182,561	422,240	95,729,188	13,838	2,314,427	2,840,149	365,413	61,717,501	8
330,980	52,638	34,579,023	13,438	908	228,547	—	621,076	9
—	—	—	—	—	—	—	292,696	10
—	—	—	—	—	—	—	—	11
—	—	—	—	—	—	—	1,583	12
—	—	—	—	—	—	—	15,605	13
330,980	—	15,116,728	13,333	—	20,764	—	62,514	14
—	52,638	19,462,295	105	898	171,832	—	248,678	15
—	—	—	—	10	35,344	—	—	16
—	—	—	—	—	607	—	—	17
3,851,581	369,602	61,150,165	400	2,313,519	2,611,602	365,413	61,096,425 ⁸	18
2,790,415	366,212	—	—	12,073	2,025	364,455	—	19
1,061,166	3,390	61,150,165	400	2,301,446	2,609,577	958	61,096,425	20
{ 428,315	3,390	16,417,482	—	—	—	—	8,741,182	21
		6,109,610	—	—	1,220,237	—	3,489,248	22
632,851	—	38,081,994	—	—	622,108	—	38,550,813 ⁸	23
—	—	43,987	400	2,122,397	741,673	958	2,632,464 ⁸	24
—	—	—	—	—	—	—	1,144,363 ¹⁰	25
—	—	497,092	—	179,049	25,559	—	71,577 ¹¹	26

7. Excludes blast furnace gas.

8. To eliminate double counting between columns for this item, it would be necessary to deduct thermal electricity generated by industry for its own use.

9. Includes line losses.

10. Street lighting and municipal power.

11. Free service.

TABLE 3. Supply and Distribution of Fuel and Electricity in Canada, 1948
 (per cent of supply available in Canada)

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
1	Production in Canada	40.0	55.2	13.7	102.8 ²
2	Net imports	64.2	47.8	88.4	0.5
3	Net decrease in measured stocks	- 4.2	- 3.0	- 2.1	- 3.3
4	Apparent supply available in Canada	100.0	100.0	100.0	100.0
5	Use unaccounted for	- 0.7	13.1	1.1	13
6	Use accounted for in Canada, including waste	100.7	86.9	98.9	100.0
7	Waste accounted for	0.7	-	13	38.0
8	Use accounted for in Canada, net of waste	100.0	86.9	98.8	62.0
9	Use accounted for in manufacture of fuel or electricity ...	15.4	-	98.8	12.9
10	(1) coal mining	1.2	-	-	13
11	(2) coal briquette plants at mines	0.7	-	-	-
12	(3) natural gas	13	-	-	5.0 ³
13	(4) crude oil	13	-	13	
14	(5) coke and gas	11.4	-	-	-
15	(6) petroleum refining	13	-	98.8	6.0
16	(7) central electric stations	2.1	-	-	1.9
17	(8) other	-	-	-	-
18	Measured portion of use outside the energy-producing sector	84.6	86.9	-	49.1
19	Measured portion of use as raw materials	0.3	-	-	- ⁴
20	Measured portion of use as fuel or electricity outside the energy-producing sector	84.3	86.9	-	49.1
21	(1) households	29.6	69.6	-	23.2
22	(2) commercial			-	10.9
23	(3) manufacturing	23.9	- ¹	-	14.2 ⁴
24	(4) mining	0.8	- ¹	-	
25	(5) transportation	30.2	17.3	-	0.6
26	(6) other	-	-	-	0.1 ⁵
27	(7) non-assignable	-	-	-	0.1 ⁶

1. Some industrial use may have been recorded as bituminous coal.
2. Includes waste gas, and gas from a burning well.
3. Includes lease fuel in Alberta.
4. Use as raw material is included with consumption by manufacturing and mining.
5. Used by private well owners in Ontario.
6. Miscellaneous sales by distributors.
7. Excludes blast furnace gas.

TABLE 3. Supply and Distribution of Fuel and Electricity in Canada, 1948
 (per cent of supply available in Canada)

Coke (except petroleum and pitch coke)	Petroleum coke	Manufactured gas ⁷	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	No.
91.1	26.7	100.0	28.8	83.7	82.1	100.3	103.6	1
8.7	84.0	—	71.2 ⁸	17.9	21.6	-0.3	-3.6	2
0.2	-10.7	—	—	-1.6	-3.7	—	—	3
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	4
2.8	7.0	9.2	99.2	-1.3	3.0	92.6	3.1	5
97.2	93.0	90.8	0.8	101.3	97.0	7.4	96.9	6
—	—	—	—	—	—	—	—	7
97.2	93.0	90.8	0.8	101.3	97.0	7.4	96.9	8
9.6	2.5	33.6	0.8	0.1	10.4	13	1.0	9
—	—	13	—	0.1	0.1	13	0.6	10
—	—	—	—	—	—	—	—	11
—	—	—	—	13	13	—	13	12
—	—	—	—	13	13	13	13	13
9.6	—	21.3	0.8	13	1.0	13	0.1	14
—	2.5	12.3	—	13	7.4	13	0.3	15
—	—	—	—	13	1.8	—	—	16
—	—	13	—	—	13	—	—	17
87.6	90.5	57.2	—	101.2	86.6	7.4	95.9	18
53.3	89.8	—	—	0.7	0.1	2.3	—	19
34.3	0.7	57.2	—	100.5	86.5	5.1	95.9	20
}	15.0	0.7	19.2	—	35.8	—	10.9	21
			5.7	—		—	4.7	22
16.2	—	31.3	—	2.6	21.8	4.3	64.3 ⁹	23
13	—	0.3	—	0.3	1.2	0.7	4.2 ⁹	24
—	—	0.1	—	77.5	25.4	0.1	11.1 ¹⁰	25
—	—	—	—	—	—	—	0.6 ¹¹	26
3.1	—	0.6	—	20.1	2.3	—	0.1 ¹²	27

8. Estimated on the basis of the value of imports in 1948, and of the quantity and value in 1952.

9. To eliminate double-counting between columns for this item it would be necessary to deduct thermal electricity generated by industry for its own use.

10. Includes line losses.

11. Street lighting.

12. Free service.

13. Less than 0.05 per cent.

TABLE 4. Supply and Distribution of Fuel and Electricity in Canada, 1952
 (per cent of supply available in Canada)

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
1	Production in Canada	42.5	82.9	44.0	105.7 ¹⁰
2	Net imports	58.1	18.1	58.3	- 2.2
3	Net decrease in measured stocks	- 0.6	- 1.0	- 2.3	- 3.5
4	Apparent supply available in Canada	100.0	100.0	100.0	100.0
5	Use unaccounted for	2.8	6.0	0.4	- 0.3
6	Use accounted for in Canada, including waste	97.2	94.0	99.6	100.3
7	Waste accounted for	1.3	-	12	16.7
8	Use accounted for in Canada, net of waste	95.9	94.0	99.5	83.6
9	Use accounted for in manufacture of fuel or electricity ...	18.9	-	99.3	15.8
10	(1) coal mining	1.0	-	-	-
11	(2) coal briquette plants at mines	1.5	-	-	-
12	(3) natural gas	-	-	-	3.3 ²
13	(4) crude oil	-	-	12	
14	(5) coke and gas	13.2	-	-	-
15	(6) petroleum refining	-	-	99.3	7.7
16	(7) central electric stations	3.2	-	-	4.8
17	(8) other	-	-	-	-
18	Measured portion of use outside the energy-producing sector	77.0	94.0	0.2	67.8
19	Measured portion of use as raw materials	0.4	-	-	- ³
20	Measured portion of use as fuel or electricity outside the energy-producing sector	76.6	94.0	0.2	67.8
21	(1) households	26.6	-	-	28.5
22	(2) commercial		34.0	-	15.0
23	(3) manufacturing		- ¹	-	22.8 ³
24	(4) mining		25.7	0.2	1.3
25	(5) transportation	-	60.0	-	0.1 ⁴
26	(6) other	-	-	-	0.1 ⁵
27	(7) non-assignable	-	-	-	-

1. Some industrial use may have been recorded as bituminous coal.

2. Includes lease fuel, in Alberta.

3. Use as raw material is included with consumption by manufacturing and mining.

4. Used by private well owners in Ontario.

5. Miscellaneous sales by distributors.

6. Street lighting and municipal power.

7. Free service.

TABLE 4. Supply and Distribution of Fuel and Electricity in Canada, 1952
 (per cent of supply available in Canada)

Coke (except petroleum and pitch coke)	Petroleum coke	Manufactured gas ⁹	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	No.
94.5	45.0	100.0	50.0	89.8	76.3	100.2	103.9	1
5.5	50.8	—	50.3	8.7	26.4	- 0.2	- 3.9	2
12	4.2	—	- 0.3	1.5	- 2.7	—	—	3
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	4
2.5	6.6	2.6	81.5	- 2.2	5.5	94.0	3.0	5
97.5	93.4	97.4	18.5	102.2	94.5	6.0	97.0	6
—	—	—	—	2.0	—	—	—	7
97.5	93.4	97.4	18.5	100.2	94.5	6.0	97.0	8
7.7	11.6	35.2	18.0	12	7.6	—	1.0	9
—	—	—	—	—	—	—	0.5	10
—	—	—	—	—	—	—	—	11
—	—	—	—	—	—	—	12	12
—	—	—	—	—	—	—	12	13
7.7	—	15.4	17.8	—	0.7	—	0.1	14
—	11.6	19.8	0.2	12	5.7	—	0.4	15
—	—	—	—	12	1.2	—	—	16
—	—	—	—	—	12	—	—	17
89.8	81.8	62.2	0.5	100.1	86.9	6.0	96.0 ⁸	18
65.0	81.0	—	—	0.5	0.1	6.0	—	19
24.8	0.8	62.2	0.5	99.6	86.8	12	96.0	20
	16.7	—	—	—	—	—	13.7	21
10.0	0.8	6.2	—	—	40.6	—	5.5	22
							60.6 ⁸	23
14.8	—	38.8	—	—	20.7	—	4.1 ⁸	24
	12	—	0.5	91.9	24.7	12	10.2 ¹¹	25
—	—	—	—	—	—	—	1.8 ⁶	26
—	—	0.5	—	7.7	0.8	—	0.1 ⁷	27

8. To eliminate double counting between columns for this item, it would be necessary to deduct thermal electricity generated by industry for its own use.

9. Excludes blast furnace gas.

10. Includes waste gas.

11. Includes line losses.

12. Less than 0.05 per cent.

TABLE 5. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity in Canada, 1948
 (billions of B.T.U's)

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
1	Production in Canada	480,661	9,617	73,106	92,960 ²
2	Net imports.....	794,407	8,335	470,012	404
3	Net decrease in stocks.....	- 51,605	- 526	- 11,188	- 2,955
4	Apparent supply available in Canada.....	1,233,463	17,426	531,930	90,409
5	Use unaccounted for	- 14,709	2,283	5,967	36
6	Use accounted for in Canada including waste	1,238,172	15,143	525,963	90,373
7	Waste accounted for	9,133	-	226	34,356
8	Use accounted for in Canada, net of waste.....	1,229,039	15,143	525,737	56,017
9	Use accounted for in manufacture of fuel or electricity...	189,827	-	525,737	11,588
10	(1) coal mining.....	14,425	-	-	13
11	(2) coal briquette plants at mines.....	8,169	-	-	-
12	(3) natural gas	13	-	-	4,434 ³
13	(4) crude oil	6	-	13	
14	(5) coke and gas	142,230	-	-	
15	(6) petroleum refining	73	-	525,724	5,414
16	(7) central electric stations.....	24,924	-	-	1,740
17	(8) other	-	-	-	-
18	Measured portion of use outside the energy-producing sector	1,039,212	15,143	-	44,429
19	Use accounted for as raw materials	2,368	-	-	- ⁴
20	Measured portion of use as fuel or electricity outside the energy-producing sector.....	1,036,844	15,143	-	44,429
21	(1) households	364,083	-	-	20,992
22	(2) commercial		12,136	-	9,832
23	(3) manufacturing.....		- ¹	-	12,826 ⁴
24	(4) mining		- ¹	-	
25	(5) transportation.....		3,007	-	
26	(6) other		-	-	557
27	(7) non-assignable.....		-	-	67 ⁵
					155 ⁶

1. Some industrial use may have been recorded as bituminous coal.
2. Includes waste gas, and gas from a burning well.
3. Includes lease fuel in Alberta.
4. Use as raw material is included with consumption by manufacturing and mining.
5. Used by private well owners in Ontario.
6. Miscellaneous sales by distributors.
7. Excludes blast furnace gas.
8. Estimated on the basis of the value of imports in 1948, and of the quantity and value in 1952.

TABLE 5. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity in Canada, 1948
(billions of B.T.U's)

Coke (except petroleum and pitch coke)	Petroleum coke	Manu- factured gas ⁷	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	Canada total	No.
98,644	2,634	43,170	1,632	187,021	231,938	144,754	161,247	14	1
9,420	8,274	—	4,041 ⁸	39,902	60,967	-461	-5,652	1,389,649	2
216	-1,059	—	—	-3,597	-10,443	—	—	14	3
108,280	9,849	43,170	5,673	223,326	282,462	144,293	155,595	14	4
3,054	686	3,960	5,627	-2,993	8,492	133,651	4,784	14	5
105,226	9,163	39,210	46	226,319	273,970	10,642	150,811	14	6
—	—	—	—	—	—	—	—	43,715	7
105,226	9,163	39,210	46	226,319	273,970	10,642	150,811	14	8
10,402	248	14,497	46	275	29,273	6	1,525	14	9
—	—	13	—	131	164	2	856	15,578	10
—	—	—	—	—	—	—	—	8,169	11
—	—	—	—	3	13	—	3	4,540	12
—	—	—	—	30	27	1	10		13
10,402	—	9,190	46	27	2,888	2	202	14	14
—	248	5,307	—	78	20,903	1	454	14	15
—	—	13	—	6	5,148	—	—	31,818	16
—	—	—	—	—	130	—	—	130	17
94,824	8,915	24,713	—	226,044	244,697	10,636	149,286 ⁹	1,857,899	18
57,717	8,849	—	—	1,643	266	3,365	—	74,208	19
37,107	66	24,713	—	224,401	244,431	7,271	149,286	1,783,691	20
16,219	66	8,298	—	—	101,042	—	17,006	559,514	21
—	—	2,488	—	—	—	—	7,352		22
17,469	—	13,509	—	5,873	61,692	6,180	99,962 ⁹	530,143	23
35	—	117	—	641	3,551	1,014	6,569 ⁹		24
—	—	26	—	172,985	71,713	77	17,292 ¹⁰	637,713	25
—	—	—	—	—	—	—	900 ¹¹	967	26
3,384	—	275	—	44,902	6,433	—	205 ¹²	55,354	27

9. To eliminate double-counting between columns for this item, it would be necessary to deduct thermal electricity generated by industry for its own use.

10. Includes line losses.

11. Street lighting.

12. Free service.

13. Less than .5 billion.

14. This line cannot be added up without double counting.

TABLE 6. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity in Canada, 1952

(billions of B.T.U's)

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
1	Production in Canada	451,715	19,200	367,812	105,364 ²
2	Net imports	645,505	4,194	487,889	-2,164
3	Net decrease in stocks	-5,988	-230	-19,495	-3,536
4	Apparent supply available in Canada	1,091,232	23,164	836,206	99,664
5	Use unaccounted for	17,300	1,398	3,713	-330
6	Use accounted for in Canada, including waste	1,073,932	21,766	832,493	99,994
7	Waste accounted for	14,647	-	259	16,678
8	Use accounted for in Canada, net of waste	1,059,285	21,766	832,234	83,316
9	Use accounted for in manufacture of fuel or electricity	207,985	-	830,525	15,709
10	(1) coal mining	11,539	-	-	-
11	(2) coal briquette plants at mines	16,972	-	-	-
12	(3) natural gas	-	-	-	3,250 ³
13	(4) crude oil	-	-	85	
14	(5) coke and gas	147,403	-	-	-
15	(6) petroleum refining	-	-	830,440	7,693
16	(7) central electric stations	32,071	-	-	4,766
17	(8) other	-	-	-	-
18	Measured portion of use outside the energy producing sector	851,300	21,766	1,709	67,607
19	Use accounted for as raw materials	3,335	-	-	- ⁴
20	Measured portion of use as fuel or electricity outside the energy-producing sector	847,965	21,766	1,709	67,607
21	(1) households	293,965	7,868	-	28,392
22	(2) commercial			-	14,936
23	(3) manufacturing			-	22,677 ⁴
24	(4) mining			-	
25	(5) transportation			1,709	
26	(6) other			-	
27	(7) non-assignable			-	1,348
					127 ⁵
					127 ⁶

1. Some industrial use may have been recorded as bituminous coal.

2. Includes waste gas, and gas from a burning well.

3. Includes lease fuel in Alberta.

4. Use as raw material is included with consumption by manufacturing and mining.

5. Used by private well owners in Ontario.

6. Miscellaneous sales by distributors.

7. Excludes blast furnace gas.

**TABLE 6. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity
in Canada, 1932**
(billions of B.T.U's)

Coke (except petroleum and pitch coke)	Petroleum coke	Manu- factured gas ⁷	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	Canada total	No.
101,416	6,126	49,149	5,617	310,978	390,060	122,082	225,535	12	1
5,883	6,916	-	5,654	30,154	134,802	-297	-8,439	1,310,097	2
- 20	575	-	-30	5,359	-13,980	-	-	12	3
107,279	13,617	49,149	11,241	346,491	510,882	121,785	217,096	12	4
2,715	899	1,284	9,165	-7,537	28,057	114,477	6,516	12	5
104,564	12,718	47,865	2,076	354,028	482,825	7,308	210,580	12	6
-	-	-	-	6,864	-	-	-	38,448	7
104,564	12,718	47,865	2,076	347,164	482,825	7,308	210,580	12	8
8,274	1,586	17,290	2,016	136	38,853	-	2,119	12	9
-	-	-	-	-	-	-	999	12,538	10
-	-	-	-	-	-	-	-	16,972	11
-	-	-	-	-	-	-	5		12
-	-	-	-	-	-	-	53		13
8,274	-	7,559	2,000	-	3,530	-	213	12	14
-	1,586	9,731	16	134	29,211	-	849	12	15
-	-	-	-	2	6,009	-	-	42,848	16
-	-	-	-	-	103	-	-		103
96,290	11,132	30,575	60	347,028	443,972	7,308	208,461 ⁸	2,087,208	18
69,761	11,030	-	-	1,811	344	7,289	-	93,570	19
26,529	102	30,575	60	345,217	443,628	19	208,461	1,993,638	20
		8,209	-	-	207,440	-	29,825		21
10,708	102	3,055	-	-	-	.	11,905		22
15,821	-	19,041	-	-	105,758	-	131,535 ⁸		23
-	-	22	60	318,360	126,085	19	22,065 ⁹	765,982	25
-	-	-	-	-	-	-	3,905 ¹⁰	4,032	26
-	-	248	-	26,857	4,345	-	244 ¹¹	31,821	27

8. To eliminate double counting between columns for this item, it would be necessary to deduct thermal electricity generated by industry for its own use.

9. Includes line losses.

10. Street lighting and municipal power.

11. Free service.

12. This line cannot be added up without double counting.

TABLE 7. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity in Canada, 1948
 (per cent of B.T.U. contribution to Canada total)

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
1	Net imports	57.1	0.6	33.8	12
	Use accounted for in manufacture of fuel or electricity:				
2	(1) coal mining	92.6	—	—	—
3	(2) coal briquette plants at mines	100.0	—	—	—
4	(3&4) natural gas and crude oil	0.1	—	0.3	97.7 ²
5	(7) central electric stations	78.3	—	—	5.5
6	(8) other	—	—	—	—
7	Measured portion of use outside the energy-producing sector.....	55.9	0.8	—	2.4
8	Use accounted for as raw materials	3.2	—	—	— ³
9	Measured portion of use as fuel or electricity outside the energy-producing sector.....	58.1	0.8	—	2.5
10	(1&2) households and commercial	65.1	2.2	—	5.5
11	(3&4) manufacturing and mining	56.7	— ¹	—	2.4 ³
12	(5) transportation	58.3	0.5	—	0.1
13	(6) other	—	—	—	6.9 ⁴
14	(7) non-assignable	—	—	—	.3 ⁵

1. Some industrial use may have been recorded as bituminous coal.
2. Includes lease fuel in Alberta.
3. Use as raw material is included with consumption by manufacturing and mining.
4. Used by private well owners in Ontario.
5. Miscellaneous sales by distributors.
6. Excludes blast furnace gas.
7. Estimated on the basis of the value of imports in 1948 and of the quantity and value in 1952.

TABLE 8. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity in Canada, 1952

(per cent of B.T.U. contribution to Canada total)

No.		Coal (excluding briquettes)	Coal briquettes	Crude petroleum	Natural gas
1	Net imports	49.3	0.3	37.2	- 0.2
	Use accounted for in manufacture of fuel or electricity:				
2	(1) coal mining	92.0	—	—	—
3	(2) coal briquette plants at mines	100.0	—	—	—
4	(3&4) natural gas and crude oil	—	—	2.5	95.8 ²
5	(7) central electric stations	74.9	—	—	11.1
6	(8) other	—	—	—	—
7	Measured portion of use outside the energy-producing sector.....	40.8	1.0	0.1	3.2
8	Use accounted for as raw materials	3.6	—	—	— ³
9	Measured portion of use as fuel or electricity outside the energy-producing sector.....	42.5	1.1	0.1	3.4
10	(1&2) households and commercial	47.7	1.3	—	7.0
11	(3&4) manufacturing and mining	47.2	— ¹	—	3.9 ³
12	(5) transportation	36.9	1.8	0.2	0.2
13	(6) other	—	—	—	3.2 ⁴
14	(7) non-assignable	—	—	—	0.4 ⁵

1. Some industrial use may have been recorded as bituminous coal.
2. Includes lease fuel in Alberta.
3. Use as raw material is included with consumption by manufacturing and mining.
4. Used by private well owners in Ontario.
5. Miscellaneous sales by distributors.
6. Excludes blast furnace gas.

TABLE 7. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity in Canada, 1948
 (per cent of B.T.U. contribution to Canada total)

Coke (except petroleum and pitch coke)	Petroleum coke	Manufac- tured gas ⁶	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	Canada total	No.
0.7	0.6	—	0.3 ⁷	2.9	4.4	12	0.4	100.0	1
—	—	—	—	0.8	1.1	12	5.5	100.0	2
—	—	—	—	—	—	—	—	100.0	3
—	—	—	—	0.7	0.9	12	0.3	100.0	4
—	—	—	—	12	16.2	—	—	100.0	5
—	—	—	—	—	100.0	—	—	100.0	6
5.1	0.5	1.3	—	12.2	13.2	0.6	8.0 ⁸	100.0	7
77.8	11.9	—	—	2.2	0.4	4.5	—	100.0	8
2.1	12	1.4	—	12.6	13.7	0.4	8.4	100.0	9
2.9	12	1.9	—	—	18.1	—	4.3	100.0	10
3.3	—	2.6	—	1.2	12.3	1.4	20.1 ⁸	100.0	11
—	—	12	—	27.1	11.3	12	2.7 ⁹	100.0	12
—	—	—	—	—	—	—	93.1 ¹⁰	100.0	13
6.1	—	0.5	—	81.1	11.6	—	0.4 ¹¹	100.0	14

8. To eliminate double-counting between columns for this item, it would be necessary to deduct thermal electricity generated by industry for its own use. —

9. Includes line losses.

10. Street lighting.

11. Free service.

12. Less than .05 per cent.

TABLE 8. Apparent Available Supply and Measured Portion of Distribution of Fuel and Electricity in Canada, 1952

(per cent of B.T.U. contribution to Canada total)

Coke (except petroleum and pitch coke)	Petroleum coke	Manufac- tured gas ⁶	Liquefied petroleum gases	Gasoline and naphtha	Other petroleum fuels	Fuelwood and wood waste used as fuel	Electricity	Canada total	No.
0.5	0.5	—	0.4	2.3	10.3	11	- 0.6	100.0	1
—	—	—	—	—	—	—	8.0	100.0	2
—	—	—	—	—	—	—	—	100.0	3
—	—	—	—	—	—	—	1.7	100.0	4
—	—	—	—	11	14.0	—	—	100.0	5
—	—	—	—	—	100.0	—	—	100.0	6
4.6	0.5	1.5	11	16.6	21.3	0.4	10.0 ⁷	100.0	7
74.5	11.8	—	—	1.9	0.4	7.8	—	100.0	8
1.3	11	1.5	11	17.3	22.3	11	10.5	100.0	9
1.7	11	1.8	—	—	33.7	—	6.8	100.0	10
2.8	—	3.3	—	—	18.4	—	24.4 ⁷	100.0	11
—	—	11	11	41.6	16.4	11	2.9 ⁸	100.0	12
—	—	—	—	—	—	—	96.8 ⁹	100.0	13
—	—	0.8	—	84.4	13.6	—	0.8 ¹⁰	100.0	14

7. To eliminate double-counting between columns for this item, it would be necessary to deduct thermal electricity generated by industry for its own use. —

8. Includes line losses.

9. Street lighting and municipal power.

10. Free service.

11. Less than .05 per cent.

TABLE 9. Commodity Account for Coal (Excluding Briquettes) 1948
(tons)

Available supply	Distribution
(a) Production	18,449,689
(b) Landed imports ¹	30,891,425
(c) Exports (including re-exports)	1,282,667
(d) Net imports ² ((b)-(c))	29,608,758
(e) Stocks at beginning of year	13,359,604
(f) Stocks at end of year	15,277,225
(g) Net decrease in stocks ((e)-(f))	-1,917,621
(h) Apparent available domestic supply ((a) + (d) + (g))	46,140,826
(k) Supplied to employees of coal mines	216,775
(l) Sales by retail fuel dealers ³	12,440,282
(m) Sales by mines direct to other consumers, for home use	1,015,171
Used for producing fuel or electricity:	
(p1) Coal mining establishments	544,286
(p2) Briquette plants at mines	302,545
(p3) Natural gas	3
(p4) Oil wells	233
(p5) Coke and gas plants: carbonized other	5,247,505
	20,275
(p6) Petroleum refineries	2,703
(p7) Central electric stations	951,246
(p) Sub-total, used for production of fuel or electricity	7,068,796
(q) Used by manufacturing industry as raw material	115,363
(s) Used by non-fuel producing manufacturers as fuel	10,953,757
(t) Used by non-fuel producing mines as fuel	385,996
(u) Sub-total, used by non-fuel producing manufacturers and mines	11,455,116
(w1) Railroads	13,258,792
(w4) Ships' bunkers	656,864
(x) Apparent domestic consumption, net of waste	46,111,796
(y) Waste	341,142
(z) Apparent domestic consumption, including waste	46,452,938

1. Includes briquettes for January, February and March.
2. No allowance made for foreign vessels bunkered in Canada, and Canadian vessels bunkered abroad.
3. Excludes some smithing and cannel coal, which is included in a separate statement for briquettes.

TABLE 10. Commodity Account for Coal (Excluding Briquettes) 1952
(tons)

Available supply	Distribution
(a) Production	17,579,002
(b) Landed imports	24,430,271
(c) Exports (including re-exports)	390,007
(d) Net imports ¹ ((b)-(c))	24,040,264
(e) Stocks at beginning of year....	13,901,982
(f) Stocks at end of year	14,129,539
(g) Net decrease in stocks ((e)-(f))	- 227,557
(h) Apparent available domestic supply ((a) + (d) + (g))	41,391,709
(k) Supplied to employees of coal mines	197,684
(l) Sales by retail fuel dealers ²	9,907,809
(m) Sales by mines direct to other consumers, for home use	914,212
Used for producing fuel or electricity:	
(p1) Coal mining establishments	435,686
(p2) Briquette plants at mines	628,606
(p5) Coke and gas plants: carbonized	5,459,354
(p7) Central electric stations	1,307,602
(p) Sub-total, used for production of fuel or electricity	7,831,248
(q) Used by manufacturing industry as raw material	165,729
(r) Used by non-fuel producing manufacturers and mines as fuel	10,064,464
(u) Sub-total, used by non-fuel producing manufacturers and mines	10,230,193
(w1) Railroads	10,149,210
(w4) Ships' bunkers	471,654
(x) Apparent domestic consumption, net of waste	39,702,010
(y) Waste	550,506
(z) Apparent domestic consumption, including waste	40,252,516

1. No allowance made for foreign vessels bunkered in Canada, and Canadian vessels bunkered abroad.
2. Excludes a small tonnage of U.K. bituminous coal, and may exclude some U.S. smithing and cannel coal. These are included in a separate statement for briquettes.

TABLE 11. Commodity Account for Coal Briquettes 1948
(tons)

Available supply		Distribution	
(a) Production	356,195	(k) Supplied to employees for con-	
(b) Imports for consumption	308,753	sumption at home	5,210
(c) Exports	45	Sales by retail fuel dealers:	
(d) Net imports ((b) - (c))	308,708	Canadian briquettes	191,856
(e) Stocks at beginning of year	52,134	U.S. briquettes ¹	249,981
(f) Stocks at end of year	71,611	(l) Sub-total, sales by retail fuel dealers	441,837
(g) Net decrease in stocks ((e)-(f))	- 19,477	(m) Shipments by producers to dom- estic consumers	2,433
(h) Apparent available domestic supply ((a)+(d)+(g)).....	645,426	(w1) Shipments by producers to rail- roads	111,365
		(z) Apparent domestic consumption..	560,845

1. Includes some U.S. smelting and cannel coal

TABLE 12. Commodity Account for Coal Briquettes 1952
(tons)

Available supply		Distribution	
(a) Production	711,093	(k) Supplied to employees for con-	
(b) Imports for consumption	155,597	sumption at home	5,468
(c) Exports	254	Sales by retail fuel dealers:	
(d) Net imports ((b) - (c))	155,343	Canadian briquettes	140,490
(e) Stocks at beginning of year	36,847	U.S. briquettes ¹	140,297
(f) Stocks at end of year	45,379	(l) Sub-total, sales by retail fuel dealers	280,787
(g) Net decrease in stocks((e)-(f))	- 8,532	(m) Shipments by producers to dom- estic consumers	5,152
(h) Apparent available domestic supply ((a)+(d)+(g)).....	857,904	(w1) Shipments by producers to rail- roads	514,730
		(z) Apparent domestic consumption..	806,137

1. Includes some U.S. smelting and cannel coal. Also a small amount of U.K. bituminous coal.

TABLE 13. Commodity Account for Crude Petroleum 1948
(thousands of imperial gallons)

Available supply		Distribution
(a) Production	430,033	Used for production of fuel or electricity:
(b) Imports for consumption.....	2,764,803	(p4) Used at oil wells
(c) Exports	24	(p6) Used at petroleum refineries:
(d) Net imports ((b)-(c))	2,764,779	Crude oil in natural state, Canadian
(e) Stocks at beginning of year.....	135,494	Imported.....
(f) Stocks at end of year	201,306	Crude oil, not in natural state, imported.....
(g) Net decrease in stocks ((e)-(f))	- 65,812	Casinghead gasoline
(h) Apparent available domestic supply ((a)+(d)+(g))	3,129,000	(p6) Sub-total, used at petroleum refineries
		(p) Sub-total, used for production of fuel or electricity (apparent domestic consumption net of waste)
		(y) Evaporation ¹
		(z) Apparent domestic consumption including waste
		3,093,899

1. Excluding Ontario.

TABLE 14. Commodity Account for Crude Petroleum 1952
(thousands of imperial gallons)

Available supply		Distribution
(a) Production	2,163,602	Used for production of fuel or electricity:
(b) Imports for consumption.....	2,919,791	(p4) Used at oil wells
(c) Exports	49,856	(p6) Used at petroleum refineries:
(d) Net imports ((b)-(c))	2,869,935	Crude oil in natural state, Canadian
(e) Stocks at beginning of year.....	389,199	Imported
(f) Stocks at end of year	503,876	Crude oil, not in natural state, imported
(g) Net decrease in stocks ((e)-(f))	- 114,677	Casinghead gasoline
(h) Apparent available domestic supply ((a)+(d)+(g))	4,918,860	(p6) Sub-total, used at petroleum refineries
		(p) Sub-total, used for production of fuel or electricity
		(w6) Pipeline fuel and losses
		(x) Apparent domestic consumption, net of waste.....
		(y) Evaporation ¹
		(z) Apparent domestic consumption, including waste.....
		4,897,016

1. Excluding Ontario.

TABLE 15. Commodity Account for Natural Gas 1948
 (thousands of cubic feet)

Available supply	Distribution	
(a) Production (estimated) ¹	92,959,550	
(b) Imports for consumption	404,046	
(g) Net decrease in stocks:		
Alberta	- 1,792,424	
Ontario	- 1,162,932	
Sub-t otal	- 2,955,356	
(h) Apparent available domestic supply ((a)+(b)+(g))	90,408,240	
(m) Sales by distributors to domestic consumers	20,992,397	
(n) Sales by distributors to commercial consumers	9,831,775	
Used for production of fuel or electricity:		
(p1) Coal mines	2	
(p3) Natural gas industry—		
Drilling fuel (Alta.)	2,530,636	
Fuel for compressors (Alta.)	17,189	
Returned to fields from plant (Alta)	194,549	
Used by producers (Ont.)	306,085	
Sub-total, natural gas industry....	3,048,459	
(p3,p4) Lease fuel (Alta)	1,385,725	
(p6) Petroleum refining, absorption plant use (Alta.)	5,413,620	
(p7) Central electric stations	1,739,889	
(p) Sub-total, used for production of fuel or electricity	11,587,695	
(v) Sales by distributors to industrial consumers	12,825,474	
(vv) Used by private well owners (Ont)	66,500	
(vvv) Miscellaneous sales by distributors	155,028	
(w6) Pipeline losses (Ont.)	557,364	
(x) Apparent domestic consumption, net of waste	56,016,233	
	Waste:	
	Waste gas and meter difference (Alta.)	9,356,281
	Wasted by Atlantic No. 3 (est.)	25,000,000
	(y) Sub-total, waste	34,356,281
	(z) Apparent domestic consumption, including waste	90,372,514

TABLE 16. Commodity Account for Natural Gas 1952
(thousands of cubic feet)

Available supply	Distribution
(a) Production ¹	105,364,486
(b) Imports for consumption	5,981,635
(c) Exports ²	8,145,242
(d) Net imports ((b)-(c))	- 2,163,607
(g) Net decrease in stocks:	
Alberta	- 1,787,729
Ontario	- 1,748,624
Sub-total	- 3,536,353
(h) Apparent available domestic supply ((a) + (d) + (g))	99,664,526
1. Consists of:	
Production as published	88,686,463
Waste gas and meter difference in field in Alberta (estimated)	16,678,023
	105,364,486
2. Obtained from the Standards Branch of the Department of Trade and Commerce, which collected the figures under the Electricity and Fluids Act.	
3. Raw gas taken in by absorption plants amounted to 39,886,160 M cu. ft. This is all included under production. Dry gas produced amounted to 32,192,859 M cu. ft. This is accounted for under distribution, along with unprocessed gas.	
(m) Sales by distributors to domestic consumers	28,392,449
(n) Sales by distributors to commercial consumers	14,935,855
Used for production of fuel or electricity:	
(p3) Natural gas industry -	
Drilling fuel (Alta.)	24,106
Fuel for compressors (Alta.)	36,852
Returned to fields from plant (Alta.)	280,215
Used by producers (Ont.)	477,253
Sub-total, natural gas industry ..	818,426
(p3, p4) Lease fuel (Alta.)	2,431,261
(p6) Petroleum refining, absorption plant use ³	7,693,301
(p7) Central electric stations	4,765,456
(p) Sub-total, used for production of fuel or electricity	15,708,444
(v) Sales by distributors to industrial consumers	22,677,481
(vv) Used by private well owners (Ont.)	126,500
(vvv) Miscellaneous sales by distributors	127,188
(w6) Pipe lines:	
Gas gathering systems (Alta.)	919,648
Pipe line losses (Ont.)	428,228
Sub-total, pipe lines	1,347,876
(x) Apparent domestic consumption, net of waste	83,315,793
(y) Waste gas and meter difference (Alta.)	16,678,023
(z) Apparent domestic consumption, including waste	99,993,816

TABLE 17. Commodity Account for Coke (Other than Petroleum Coke or Pitch Coke) 1948
(tons)

Available supply		Distribution	
(a) Production	3,945,776	(l) Sales by retail fuel dealers.....	545,113
(b) Imports for consumption.....	544,081	(m) Sales by producers to consumers for domestic use	103,620
(c) Exports (including re-exports)	167,299	Used for production of fuel or electricity:	
(d) Net imports ((b)-(c))	376,782	(p5) Coke and gas plants.....	416,072
(e) Stocks at beginning of year.....	599,046	Used by manufacturing industry as raw material:	
(f) Stocks at end of year	590,402	Blast furnaces.....	2,075,263
(g) Net decrease in stocks ((e)-(f))	8,644	Steel furnaces	8,559
(h) Apparent available domestic supply ((a) + (d) + (g)).....	4,331,202	Other uses	224,884
		(q) Sub-total, used by manufacturing industry as raw material	2,308,706
		(s) Used in foundry cupolas	208,269
		(ss) Other use by non-fuel producing manufacturers, as fuel	490,486
		(t) Used by non-fuel producing mines, as fuel	1,411
		Used by non-fuel producing manufacturers and mines, accounted for but not allocable.....	135,374
		(u) Sub-total, used by non-fuel producing manufacturers and mines..	3,144,246
		(z) Apparent domestic consumption ..	4,209,051

TABLE 18. Commodity Account for Coke (Other than Petroleum Coke or Pitch Coke) 1952
(tons)

Available supply		Distribution	
(a) Production	4,056,655	(l) Sales by retail fuel dealers.....	323,489
(b) Imports for consumption.....	538,313	(m) Sales by producers to consumers for domestic use	104,826
(c) Exports (including re-exports)	302,999	Used for production of fuel or electricity:	
(d) Net imports ((b)-(c))	235,314	(p5) Coke and gas plants	330,980
(e) Stocks at beginning of year.....	463,244	Used by manufacturing industry as raw material:	
(f) Stocks at end of year	464,038	Blast furnaces.....	2,493,903
(g) Net decrease in stocks ((e)-(f))	- 794	Steel furnaces	4,093
(h) Apparent available domestic supply ((a) + (d) + (g)).....	4,291,175	Other uses	292,419
		(q) Sub-total, used by manufacturing industry as raw material	2,790,415
		(s) Used in foundry cupolas	185,520
		(r) Other use by non-fuel producing manufacturers and mines	447,331
		(u) Sub-total, used by non-fuel producing manufacturers and mines..	3,423,266
		(z) Apparent domestic consumption ..	4,182,561

TABLE 19. Commodity Account for Petroleum Coke 1948
(tons)

Available supply		Distribution	
(a) Production	87,438	(1) Sales by retail fuel dealers.....	2,204
(b) Imports for consumption	307,498	Used for production of fuel or electricity:	
(c) Exports (including re-exports)..	32,785	(p6) Petroleum refining, made for own use	8,225
(d) Net imports ((b)-(c))	274,713	(q) Used by manufacturing industry as raw material:1	293,792
(e) Stocks at beginning of year	116,479	(z) Apparent domestic consumption	304,221
(f) Stocks at end of year	151,634		
(g) Net decrease in stocks ((e)-(f))	- 35,155		
(h) Apparent available domestic supply ((a)+(d)+(g))	326,996		

1. May include some fuel.

TABLE 20. Commodity Account for Petroleum Coke 1952
(tons)

Available supply		Distribution	
(a) Production.....	203,388	(1) Sales by retail fuel dealers	3,390
(b) Imports for consumption	286,915	Used for production of fuel or electricity:	
(c) Exports (including re-exports)	57,293	(p6) Petroleum refining, made for own use.....	52,638
(d) Net imports ((b)-(c))	229,622	(q) Used by manufacturing industry as raw material:1	366,212
(e) Stocks at beginning of year	164,483	(z) Apparent domestic consumption.....	422,240
(f) Stocks at end of year	145,383		
(g) Net decrease in stocks ((e)-(f))	19,100		
(h) Apparent available domestic supply ((a)+(d)+(g)).....	452,110		

1. May include some fuel.

TABLE 21. Commodity Account for Manufactured Gas¹ 1948
(thousands of cubic feet)

Available supply	Distribution
(a) Production:	
Made by coke and gas plants	74,267,658
Still gas made by petroleum refineries	12,020,328
Oil (Pintsch) gas	51,090
(h) Apparent available domestic supply	86,339,076
	(m) Sold for use in homes
	(n) Sold for commercial use
	Used for production of fuel or electricity:
	(p1) Coal mining
	(p5) Coke and gas plants
	(p6) Still gas used in petroleum refineries
	(p7) Central electric stations
	(p) Sub-total, used for production of fuel or electricity
	(s) Used by non-fuel producing manufacturers (estimated).....
	(t) Used by non-fuel producing mines
	(r) Sub-total, used by non-fuel producing manufacturers and mines, as fuel
	(v) Sold for miscellaneous use
	(vv) Accounted for but not sold
	(w1) Railway car lighting
	(z) Apparent domestic consumption
1. Excludes blast furnace gas.	78,418,957

TABLE 22. Commodity Account for Manufactured Gas¹ 1952
(thousands of cubic feet)

Available supply	Distribution
(a) Production:	
Made by coke and gas plants	78,651,418
Still gas made by petroleum refineries	19,602,387
Oil (Pintsch) gas	43,987
(h) Apparent available domestic supply	98,297,792
	(m) Sold for use in homes
	(n) Sold for commercial use
	Used for production of fuel or electricity:
	(p5) Coke and gas plants
	(p6) Still gas used in petroleum refineries
	(p) Sub-total, used for production of fuel or electricity
	(r1) Sold for industrial use
	(r2) Used in plants associated with coke and gas plants
	(r) Sub-total, used by non-fuel producing manufacturers and mines, as fuel
	(v) Sold for miscellaneous use
	(vv) Accounted for but not sold
	(w1) Railway car lighting
	(z) Apparent domestic consumption
1. Excludes blast furnace gas.	95,729,188

TABLE 23. Commodity Statement for Liquefied Petroleum Gases 1948
(thousands of imperial gallons)

Available supply		Distribution
(a) Production	10,880	(p5) Used by coke and gas plants
(b) Imports ¹ (estimated).....	26,941	(z) Measured portion of distribution
(h) Apparent available domestic supply ((a) + (b))	37,821	

1. Estimated on the basis of the value of imports in 1948, and of the quantity and value of imports in 1952.

TABLE 24. Commodity Statement for Liquefied Petroleum Gases 1952
(thousands of imperial gallons)

Available supply		Distribution
(a) Production.....	37,449	Used for production of fuel or electricity:
(b) Imports for consumption	37,694	(p5) Coke and gas plants..... 13,333
(e) Refinery stocks at beginning of year	664	(p6) Petroleum products industry 105
(f) Refinery stocks at end of year	861	(p) Sub-total, used for production of fuel or electricity 13,438
(g) Net decrease in refinery stocks ((e)-(f))	- 197	(w2) Used by electric railways 400
(h) Apparent available domestic supply ((a) + (b) +(g))	74,946	(z) Measured portion of distribution..... 13,838¹

1. It is known that provincial taxation authorities in Ontario, Manitoba, Alberta and British Columbia accounted for the consumption of 4,519 thousand gallons. This was almost certainly for road transport purposes. Its inclusion in the table would involve some duplication with use by electric railways (w2).

TABLE 25. Commodity Account for Gasoline and Naphtha 1948
(thousands of imperial gallons)

Available supply		Distribution
(a) Production	1,246,806	Used for production of fuel or electricity:
(b) Imports for consumption.....	274,984	(p1) Coal mines 873
(c) Exports (including re-exports)	8,973	(p3) Natural gas 20
(d) Net imports ((b)-(c))	266,011	(p4) Crude oil 197
(e) Stocks at beginning of year.....	238,429	(p5) Coke and gas plants 177
(f) Stocks at end of year	262,405	(p6) Petroleum refining 528
(g) Net decrease in stocks ((e)-(f))....	- 23,976	(p7) Central electric stations 37
(h) Apparent available domestic supply ((a)+(d)+(g)).....	1,488,841	(p) Sub-total, used for production of fuel or electricity 1,832
1. Of which, 1,133,234 thousand gallons were probably used by motor vehicles.		(q) Used by manufacturing industry as raw material 10,950
		(s) Used by non-fuel producing manufacturers, as fuel 39,156
		(t) Used by non-fuel producing mines, as fuel 4,275
		(v) Other gasoline accounted for 1,373,981
		(w1) Used by railroads 3,186
		(w3) Used by motor carriers 55,412
		(w5) Used by civil air carriers in Canada (estimated) 20,000
		(x) Apparent domestic consumption, net of waste 1,508,792 ¹

TABLE 26. Commodity Account for Gasoline and Naphtha 1952
(thousands of imperial gallons)

Available supply		Distribution
(a) Production	2,073,188	Used for production of fuel or electricity:
(b) Imports for consumption.....	233,114	(p6) Petroleum refining 898
(c) Exports (including re-exports)	32,089	(p7) Central electric stations 10
(d) Net imports ((b)-(c))	201,025	(p) Sub-total, used for production of fuel or electricity 908
(e) Stocks at beginning of year.....	429,002	(q) Used by manufacturing industry as raw material 12,073
(f) Stocks at end of year	393,293	(v) Other gasoline accounted for 2,168,098
(g) Net decrease in stocks ((e)-(f))	35,729	(w1) Used by railroads 3,430
(h) Apparent available domestic supply ((a)+(d)+(g)).....	2,309,942	(w2) Used by electric railways 12,048
1. Of which, 189,893 thousand gallons were marked gasoline; and 2,082,297 were unmarked, and probably used by motor vehicles.		(w3) Used by motor carriers 77,770
		(w5) Civil air carriers (estimated) 40,100
		(x) Apparent domestic consumption, net of waste 2,314,427 ¹
		(y) Waste 45,759
		(z) Apparent domestic consumption, including waste 2,360,186

TABLE 27. Commodity Account for Other Petroleum Fuels 1948
(Kerosene, Tractor Fuel, Diesel Fuel, and Fuel Oil Numbers 1 to 6)
(thousands of imperial gallons)

Available supply	Distribution
(a) Production.....	1,364,339
(b) Imports for consumption	426,011
(c) Exports (including re-exports)	67,380
(d) Net imports ((b)-(c)).....	358,631
(e) Stocks at beginning of year	354,906
(f) Stocks at end of year.....	416,334
(g) Net decrease in stocks ((e)-(f))....	- 61,428
(h) Apparent available domestic supply ((a)+(d)+(g))	1,661,542
(m) Deliveries for consumption in homes and buildings.....	594,364
Used for production of fuel or electricity:	
(p1) Coal mining	964
(p3) Natural gas	75
(p4) Oil wells	161
(p5) Coke and gas plants: raw material fuel	16,869 116
(p6) Petroleum refineries.....	122,961
(p7) Central electric stations	30,279
(p8) Used for making Pintsch gas in miscellaneous non-metallic mineral products industry	767
(p) Sub-total, used in production of fuel or electricity	172,192
(q) Used by manufacturing industry as raw material	1,437
(qq) Used by mines for concentrating ores	127
(s) Used by non-fuel producing manufacturers as fuel	362,894
(t) Used by non-fuel producing mines, as fuel	20,888
(u) Sub-total, used by non-fuel producing manufacturers and mines	385,346
(v) Unspecified uses accounted for	37,845
(w1) Used by railroads	116,248
Taxed sales of diesel oil for motor vehicles	17,282
Other motor vehicles, including tractors	20,590
(w3) Sub-total, delivered for use by motor vehicles	37,872
(w4) Delivered to ships and boats, as fuel	267,720
(x) Apparent domestic consumption	1,611,587

TABLE 28. Commodity Account for Other Petroleum Fuels 1952
(Kerosene, Tractor Fuel, Diesel Fuel, and Fuel Oil Numbers 1 to 6)
(thousands of imperial gallons)

Available supply ,	Distribution
(a) Production.....	2,294,472
(b) Imports for consumption	793,165
(c) Exports (including re-exports)	215
(d) Net imports ((b)-(c)).....	792,950
(e) Stocks at beginning of year	582,757
(f) Stocks at end of year.....	664,995
(g) Net decrease in stocks ((e)-(f))	- 82.238
(h) Apparent available domestic supply ((a)+(d)+(g))	3,005,184
(m) Deliveries for consumption in homes and buildings	1,220,237
Used for production of fuel or electricity:	
(p5) Coke and gas plants ¹	20,764
(p6) Petroleum refineries.....	171,832
(p7) Central electric stations	35,344
(p8) Used for making Pintsch gas in miscellaneous non-metallic mineral products industry	607
(p) Sub-total, used in production of fuel or electricity	228,547
(q) Used by manufacturing industry as raw material	
(qq) Used by mines for concentrating ores	1,807
(r) Used by non-fuel producing manufacturers and mines, as fuel	218
(u) Sub-total, delivered for use by non-fuel producing manufacturers and mines	622,108
(v) Unspecified uses accounted for	
(w1) Used by railroads	31,868
(w2) Used by electric railways	92,853
Taxed sales of diesel oil for motor vehicles	
Other motor vehicles, including tractors	124,721
(w3) Sub-total, delivered for use by motor vehicles	291,046
(w4) Delivered to ships and boats, as fuel	2,840,149
(x) Apparent domestic consumption	

1. Includes some gasoline.

TABLE 29. Commodity Statement for Fuelwood and Wood Waste Used as Fuel, 1948
(cords)

Available supply		Distribution
Fuelwood produced as such	5,561,491	Used for production of fuel or electricity:
Mill waste:		(p1) coal
slabs and edgings	902,963	(p4) crude oil
hogged fuel	275,349	(p5) coke and gas plants
sawdust	383,457	(p6) petroleum refineries
sawdust and waste	33,858	(p) Sub-total, used for production of fuel or electricity
other mill waste	80,575	(q) Used by manufacturing industry as raw material
Sub-total, mill waste	1,676,202	(s) Used by non-fuel producing manufacturers, as fuel
(a) Total production	7,237,693	(t) Used by non-fuel producing mines
(b) Imports for consumption ¹	1,484	(w1) Used as fuel by railroads
(c) Exports	24,494	(x) Measured portion of distribution.....
(d) Net imports ((b) - (c))	-23,030	
(h) Apparent available domestic supply ((a) + (d))	7,214,663	

1. In addition, sawdust to the value of \$24,087 was imported.

TABLE 30. Commodity Statement for Fuelwood and Wood Waste Used as Fuel, 1952
(cords)

Available supply		Distribution
Fuelwood produced as such.....	4,486,068	(q) Used by manufacturing industry as raw material
Mill waste:		364,455
slabs and edgings	816,119	(w1) Used as fuel by railroads
hogged fuel	344,028	(x) Measured portion of distribution
sawdust	397,162	365,413
sawdust and waste	20,559	
other mill waste	40,168	
Sub-total, mill waste	1,618,036	
(a) Total production	6,104,104	
(b) Imports for consumption ¹	2,799	
(c) Exports	17,658	
(d) Net imports ((b) - (c))	-14,857	
(h) Apparent available domestic supply ((a) + (d))	6,089,247	

1. In addition, sawdust to the value of \$36,688 was imported.

TABLE 31. Commodity Account for Electricity, 1948
(thousands of kilowatt hours)

Available supply		Distribution
(a) Electricity generated in Canada	47,258,872	
by central electric stations:		
generated by water	41,070,095	
generated by fuel	1,319,586	
by manufacturing industry for own use	4,590,677	
by mining industry for own use	270,522	
by electric railways for own use	7,992	
(b) Imports	86,391	
(c) Exports	1,743,108	
(d) Net imports ((b) - (c))	- 1,656,717	
(h) Apparent available domestic supply ((a) + (d))	45,602,155	
(1) Free service		59,978
(m) Residential use		4,984,280
(mm) Other non-industrial uses:		
Commercial lighting		2,104,853
Street lighting		263,639
Sub-total		2,418,492
Used for production of fuel:		
(p1) Coal mining		250,714
(p3) Natural gas industry		2,963
(p4) Crude petroleum industry		999
(p5) Coke and gas plants		59,177
(p6) Petroleum refining		132,980
(p) Sub-total used for production of fuel		446,833
(s) Manufacturing industry, other than fuel manufacturing		29,297,223
(t) Mining, other than coal, crude petroleum, or natural gas		1,925,351
(w2) Electric railways		602,161
(w7) Line losses		4,465,875
(x) Apparent domestic consumption		44,200,193

TABLE 32. Commodity Account for Electricity, 1952
(thousands of kilowatt hours)

Available supply		Distribution
(a) Electricity generated in Canada	66,100,534	
by central electric stations:		
generated by water	57,023,530	
generated by fuel	2,385,668	
by manufacturing industry for own use	6,450,729	
by mining industry for own use	234,431	
by electric railways for own use	6,176	
(b) Imports	19,985	
(c) Exports	2,493,210	
(d) Net imports ((b) - (c))	- 2,473,225	
(h) Apparent available domestic supply ((a) + (d))	63,627,309	
(1) Free service		71,577
(m) Residential use		8,741,182
(mm) Other non-industrial uses:		
Commercial lighting		3,489,248
Municipal power		796,117
Street lighting		348,246
Sub-total		4,633,611
Used for production of fuel:		
(p1) Coal mining		292,696
(p3) Natural gas industry		1,583
(p4) Crude petroleum industry		15,605
(p5) Coke and gas plants		62,514
(p6) Petroleum refining		248,678
(p) Sub-total used for production of fuel		621,076
(s) Manufacturing industry, other than fuel manufacturing		38,550,813
(t) Mining, other than coal, crude petroleum or natural gas		2,632,464
(w2) Used by electric railways		529,371
(w7) Line losses		5,937,407
(x) Apparent domestic consumption		61,717,501

TABLE 33. Stocks of Coal (Excluding Briquettes) Measured in Canada, 1948 and 1952
(tons)

Year, and type of stock	Stocks held at		Change
	Beginning of year	End of year	
1948			
Industry.....	3,894,646	4,288,207	+ 393,561
Retail dealers	1,195,856	1,565,558	+ 369,702
Dock operators.....	2,124,308	2,757,618	+ 633,310
Coke and gas plants	1,741,932	1,814,405	+ 72,473
Railways.....	4,073,008	4,550,423	+ 477,415
Bunker coal	33,196	76,024	+ 42,828
On bank at mines.....	296,658	224,990	- 71,668
Total	13,359,604	15,277,225	+ 1,917,621
1952			
Industry.....	4,567,481	4,802,350	+ 234,869
Retail dealers	1,123,433	1,325,355	+ 201,922
Dock operators.....	2,533,657	2,390,600	- 143,057
Coke and gas plants	1,990,191	2,040,001	+ 49,810
Railways.....	3,467,905	3,316,490	- 151,415
Bunker coal	45,663	55,244	+ 9,581
On bank at mines.....	173,652	199,499	+ 25,847
Total	13,901,982	14,129,539	+ 227,557

TABLE 34. Stocks of Coal Briquettes Measured in Canada, 1948 and 1952
(tons)

Year, and type of stock	Stocks held at		Change
	Beginning of year	End of year	
1948			
Retail dealers	51,661	71,355	+ 19,694
Manufacturing plants	473	256	- 217
Total	52,134	71,611	+ 19,477
1952			
Retail dealers	36,063	43,660	+ 7,597
Manufacturing plants.....	784	1,719	+ 935
Total	36,847	45,379	+ 8,532

TABLE 35. Stocks of Crude Petroleum Measured in Canada, 1948 and 1952
(thousands of imperial gallons)

Year, and type of stock	Stocks held at		Change
	Beginning of year	End of year	
1948			
Field storage.....	6,690	7,463	+ 773
Refineries	128,804	193,843	+ 65,039
Total.....	135,494	201,306	+ 65,812
1952			
Field storage.....	14,903	17,396	+ 2,493
Oil in pipeline system	84,477	111,053	+ 26,576
Refineries	289,819	375,427	+ 85,608
Total.....	389,199	503,876	+ 114,677

TABLE 36. Changes in Inventories of Natural Gas Measured in Ontario and Alberta, 1948 and 1952
(thousands of cubic feet)

Type of stock change	1948	1952
Ontario:		
Natural and still gas to storage'	1,162,932	1,748,624
Alberta:		
Deliveries to field:		
Bow Island	351,099	1,310,984
Turner Valley	3,135,821	1,427,196
Sub-total	3,486,920	2,738,180
Withdrawal:		
Bow Island	561,142	625,476
Turner Valley (repressured well)	1,133,354	324,975
Sub-total	1,694,496	950,451
Excess of deliveries over withdrawals	1,792,424	1,787,729
Total, increases of inventory in Canada	2,955,356	3,536,353

TABLE 37. Stocks of Coke (Other than Petroleum Coke and Pitch Coke) Measured in Canada, 1948 and 1952
(tons)

Year, and type of stock	Stocks held at		Change
	Beginning of year	End of year	
1948			
Industry	208,410	235,781	+ 27,371
Retail dealers	96,278	62,932	- 33,346
Dock operators	24,834	17,412	- 7,422
Coke and gas plants.....	269,524	274,277	+ 4,753
Total.....	599,046	590,402	- 8,644
1952			
Industry	259,020	232,011	- 27,009
Retail dealers	39,719	37,136	- 2,583
Dock operators	8,404	13,945	+ 5,541
Coke and gas plants.....	156,101	180,946	+ 24,845
Total.....	463,244	464,038	+ 794

TABLE 38. Stocks of Petroleum Coke Measured in Canada, 1948 and 1952
(tons)

Year, and type of stock	Stocks held at		Change
	Beginning of year	End of year	
1948			
Industry	111,229	144,930	+ 33,701
Retail dealers	42	837	+ 795
Petroleum refineries	5,208	5,867	+ 659
Total.....	116,479	151,634	+ 35,155
1952			
Industry	161,118	143,468	- 17,650
Retail dealers	-	152	+ 152
Petroleum refineries	3,365	1,763	- 1,602
Total.....	164,483	145,383	- 19,100

TABLE 39. Stocks of Gasoline and Naphtha Measured in Canada, 1948 and 1952
(thousands of imperial gallons)

Type of stock	1948			1952			Change	
	Stocks held at		Change	Stocks held at		Change		
	Beginning of year	End of year		Beginning of year	End of year			
Aviation gasoline:								
refineries	—	—	—	10,101	15,759	+ 5,658		
marketing inventories	3,095	9,146	+ 6,051	24,143	22,713	- 1,430		
Motor gasoline:								
refineries	95,289	98,533	+ 3,244	175,836	161,314	- 14,522		
marketing inventories	133,713	147,396	+ 13,683	209,933	185,495	- 24,438		
Naphtha specialties:								
refineries	4,091	4,783	+ 692	5,445	4,551	- 894		
marketing inventories	2,241	2,548	+ 307	3,544	3,461	- 83		
Total, gasoline and naphtha	238,429	262,405	+ 23,976	429,002	393,293	- 35,709		

TABLE 40. Stocks of Other Petroleum Fuels Measured in Canada, 1948 and 1952
(thousands of imperial gallons)

Type of stock	1948			1952			Change	
	Stocks held at		Change	Stocks held at		Change		
	Beginning of year	End of year		Beginning of year	End of year			
Tractor fuel:								
refineries	3,663	12,469	+ 8,806	2,180	3,394	+ 1,214		
marketing inventories	4,536	4,324	- 212	1,165	724	- 441		
Aviation turbine fuel:								
refineries	—	—	—	711	1,609	+ 898		
marketing inventories	1	1	1	2,254	1,248	- 1,006		
Kerosene and stove oil:								
refineries — kerosene	17,990	12,442	- 5,547	5,896	5,295	- 601		
stove oil	41,664	38,317	- 3,347	36,539	35,121	- 1,418		
marketing inventories — kerosene	25,805 ²	28,629 ²	+ 2,824 ²	6,993	5,115	- 1,878		
stove oil				38,812	38,249	- 563		
Diesel fuel:								
refineries	18,540	30,656	+ 12,116	42,916	49,985	+ 7,069		
marketing inventories	N.A.	N.A.	N.A.	37,106	43,209	+ 6,103		
Furnace oil and other light fuel oil:								
refineries — furnace oil	60,148	83,128	+ 22,980	98,375	132,739	+ 34,364		
other light fuel oil				7,127	3,530	- 3,597		
marketing inventories — furnace oil	74,176	94,490	+ 20,316	127,649	135,062	+ 7,413		
other light fuel oil				4,209	4,767	+ 558		
Heavy fuel oil (Nos. 4, 5 and 6):								
refineries	79,538	85,739	+ 6,201	101,848	127,965	+ 26,117		
marketing inventories	28,847	26,141	- 2,707	68,977	76,983	+ 8,006		
Total	354,906	416,334	+ 61,428	582,757	664,995	+ 82,238		

1. Included under kerosene.

2. Includes aviation turbine fuel.

APPENDIX

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APPENDIX

NOTES ON THE TABLES

Coal (Excluding Briquettes)

1. Tables 9 and 10 give commodity accounts for coal (excluding briquettes). The two sides, which were computed independently, balance within 0.7 per cent for 1948 and 2.8 per cent for 1952. In 1948, the amount of consumption measured exceeded the supply apparently available. It is known that there was some double-counting on the distribution side, but not known whether there was enough to account for the difference entirely.

2. The figures for production (a) and landed imports (b) are from *The Coal Mining Industry (Coal Statistics for Canada in 1948)*. Exports (c) are from *Trade of Canada*. Sources of figures for inventories (e) and (f) are outlined in paragraph 45.

3. On the distribution side, the amount supplied to employees of coal mines (k), sold by retail fuel dealers (l), sold by mines direct to domestic consumers (m), used by coal mining establishments (p1), used by briquette plants (p2), and waste (y) are from *The Coal Mining Industry*. The statement of sales by retail fuel dealers (l) excludes a certain amount of U.S. smithing and cannel coal, and of U.K. bituminous coal. These are aggregated with briquettes and appear on the commodity accounts for briquettes. The amount is probably small. Data on coal used for ships' bunkers (w4) are from worksheets maintained by the Industry and Merchandising Division. A figure for coal supplies direct by mines for ships' bunkers is published in *The Coal Mining Industry*. Data on coal used in coke and gas plants (p5) are from *The Coke and Gas Industry*, and those on coal used in petroleum refineries (p6) in 1948 are from *The Petroleum Products Industry 1953*. Information about coal used in briquette plants (p2) is from Census of Industry schedules. Coal used by central electric stations is from *Central Electric Stations*, published by the Public Finance and Transportation Division. Coal used by manufacturers as a raw material (q) was obtained from Census of Industry schedules.

4. In handling the use of coal by industry, different approaches were used for 1948 and 1952. For 1948, use as fuel by non-fuel producing manufacturers (s) was obtained from the Census of Industry, and use by non-fuel producing mines (t) was obtained from *General Review of the Mining Industry*. This results in some double-counting with use by central electric stations (p7) because that figure includes some of the coal used by those manufacturers or mines which sell electricity, and thus are included in the survey of central electric stations. There will also be double-counting with sales by retail fuel dealers (l) in so far as manufacturers and mines purchase through them, instead of in carload lots.

5. In 1952, the Census of Industry did not collect details of fuel used by manufacturers. Consequently, for that year, the use of coal as fuel by non-fuel producing manufacturers and mines (r) was based on the survey of coal and coke used by industrial consumers, the results of which are published in *The Coal Mining Industry*. This survey covers central electric stations, as well as manufacturers and mines, but it excludes coal mines and coke and gas plants. From the total of coal used by industrial consumers was deducted coal used by central electric stations (p7) and petroleum refineries (p6) to give the total used by non-fuel producing manufacturers and mines (u). The deduction of coal used as a raw material (q) from this total (u) left coal used by non-fuel producing manufacturers and mines as fuel (r). In this case, there is no double-counting with central electric stations, as there is for 1948. However, the possibility of double-counting with sales by retail fuel dealers (l) remains. Since the survey of industrial consumers covers only establishments using 500 tons of coal or more a year, the use as fuel (r) is understated.

6. The figures for coal used by the railways are based on figures published by the Public Finance and Transportation Division in *Railway Transport, Parts I and III*. The amount of briquettes delivered to the railways by producers, as measured by the Census of Industry, has been deducted. Coal used by Canadian railways in the United States has also been deducted.

Coal Briquettes

7. Tables 11 and 12 give commodity accounts for coal briquettes. The two sides, which were computed independently, balance within 13.1 per cent for 1948 and 6.0 per cent for 1952.

8. The figures for production (a) are from *The Coal Mining Industry*. Imports (b) and exports (c) are from *Trade of Canada*. Sources of data on stocks (e) and (f) are outlined in paragraph 46. Supplies to employees for consumption at home (k) are from *The Coal Mining Industry*, as are shipments to railroads (wl) and sales by retail fuel dealers (l). Shipments to domestic consumers other than employees (m) were obtained from *The Coal Mining Industry* for 1953, and from worksheets for 1948. Sales by retail dealers include, in the case of U.S. fuel, the item "miscellaneous (including briquettes)." This includes some smithing and cannel coal, and in 1952 a small amount of U.K. bituminous coal.

Crude Petroleum

9. Tables 13 and 14 give commodity accounts for crude petroleum. The two sides, which were com-

puted independently, balance within 1.1 per cent for 1948, and 0.4 per cent for 1952. Production data (a), which include natural gasoline, are from *The Crude Petroleum and Natural Gas Industry*. Information about oil used at the well (p4) and evaporation (y) is from unpublished material. Imports (b) and exports (c), which include casinghead gasoline imported by refineries for blending, are from *Trade of Canada*.

10. The inventory figures are from the sources outlined in paragraph 47.

11. Data for oil used by refineries (p6) are from *The Petroleum Products Industry*, and pipeline fuel and losses (w6) are published monthly in *Pipe Lines (Oil) Statistics*.

Natural Gas

12. Tables 15 and 16 attached give balances for the supply and distribution of natural gas. The two sides balance within 0.04 per cent in 1948, and 0.33 per cent in 1952.

13. The concept of production has been handled differently from any other balances in this series. Production as recorded in *The Crude Petroleum and Natural Gas Industry* understates the amount of gas drawn from the earth, and is therefore not the most suitable figure from the conservation point of view. To this figure has therefore been added the estimated amount of gas wasted and meter difference at the well in Alberta and, for 1948 only, the estimated waste due to fire at Atlantic No. 3 (a gas well in Alberta). This gives a total estimated production (a) which is an approximation to the amount of gas actually extracted from Canadian soil.

14. The figures for imports (b) are from *Trade of Canada*. Exports (c) were obtained from the Standards Branch of the Department of Trade and Commerce. The net decrease in stocks (g) is based on the excess of withdrawals from storage fields over gas pumped into them. These figures were obtained from provincial date as outlined in paragraph 48. Since more gas was pumped back than withdrawn during both the years covered, there figures are negative.

15. Sales by distributing companies to final consumers (m), (n), (v) and (vvv) are as reported by distributors, and published in *The Coke and Gas Industry*. Sales to industrial consumers (v) include use as a raw material, as well as fuel. Use as raw material cannot be stated separately, since the number of firms involved was too small.

16. The quantities of gas used by producers in the field (p3) for both years, and in plants (p6) for 1948 are taken from provincial publications. Absorption plant use (p6) in 1952 was computed from Census of Industry schedules. Ontario figures are from the annual reports of the Ontario Department of Mines,

as are the figures for use by private well owners (vv). Alberta figures for use by producers (p), for lease fuel (o) and for waste (y) are from *Alberta Petroleum Industry 1948* and *Alberta Oil and Gas Industry 1952*, both published by the Alberta Petroleum and Natural Gas Conservation Board.

Coke (Other Than Petroleum Coke and Pitch Coke)

17. Tables 17 and 18 give commodity accounts for coke (other than petroleum coke and pitch coke). The two sides, which were computed independently, balance within 2.8 per cent for 1948 and 2.5 per cent for 1952.

18. Production (a) was obtained from *The Coke and Gas Industry*. Data on imports (b) and exports (c) were obtained from *Trade of Canada*. The sources of information on inventories (e) and (f) are outlined in paragraph 49. Sales by retail fuel dealers (1) were obtained from *The Coal Mining Industry (Coal Statistics for Canada in 1948)*. Sales by producers direct to consumers for domestic use (m) were obtained from *The Coke and Gas Industry*, as were figures on coke used for producing gas in coke and gas plants (p5). Information on use in blast furnaces and steel furnaces (q) was obtained from *The Primary Iron and Steel Industry*. Other uses as a raw material (q) were compiled from Census of Industry schedules. The sub-total for coke used by non-fuel producing manufacturers and mines (u) was taken from *The Coal Mining Industry* the figure being based on a monthly survey. Use in foundry cupolas (s) was obtained from worksheets. In 1948, other use by non-fuel producing manufacturers as fuel (ss) was based on information in *General Review of the Manufacturing Industries* by deducting use by fuel producers. Use by non-fuel producing mines was from *General Review of the Mining Industry*. Uses accounted for but not allocable were obtained by deducting from (u) the allocable items (q), (s), (ss) and (t). In 1952, other uses by non-fuel producing manufacturers and mines (r) were obtained by subtracting (q) and (s) from (u).

19. There is double-counting between use in coke and gas plants (p5) and use by non-fuel producing industries (u), to the extent to which coke is used in coke and gas plants operated by steel companies. The amount is small and could not be taken out without revealing confidential information.

Petroleum Coke

20. Tables 19 and 20 give balances for the supply and distribution of petroleum coke. The two sides, which were computed independently, balance within 7.0 per cent for 1948, and 6.6 per cent for 1952.

21. Data on production (a) and on use in petroleum refineries (p6) are taken from *The Petroleum Products Industry*. Imports (b) and exports (c) are from

Trade of Canada. Data on stocks (e) and (f) are from sources outlined in paragraph 50. Information on sales by retail dealers (1) is from *The Coal Mining Industry (Coal Statistics for Canada in 1948)*. The 1948 total for use by manufacturing industry as raw material (q) is the figure given in *Coal Statistics for Canada* for total industrial use. The 1952 total for (q) is a revision of the equivalent published figure. For 1952 it is known that most of the stated total was actually used as raw material, and it is thought probable that the remainder was. For 1948 it was also decided to adopt the same procedure.

Manufactured Gas

22. Tables 21 and 22 give balances for the supply and distribution of manufactured gas. The two sides, which were computed independently, except for one minor item, balance within 9.2 per cent for 1948 and 2.6 per cent for 1952.

23. Data on production are from *The Coke and Gas Industry*, except in the case of oil gas, where production is given in *The Miscellaneous Non-Metallic Mineral Products Industry*.

24. Sales for homes (m), commercial use (n), and miscellaneous use (v) are from distributors' reports, as published in *The Coke and Gas Industry*. For 1952, sales for industrial use (r1), and use by plants associated with coke and gas plants (r2) are from the same publication. These figures include some gas from petroleum refineries. Information on gas used in coke and gas plants (p5) is from the same publication, as is the amount accounted for but not sold (vv). For 1948, use by non-fuel producing manufactures (s) is based on Census of Industry data, but is lower than the figures published for that year, because blast furnace gas used by steel plants has been deducted. Use by non-fuel producing mines (t) is from *Mineral Statistics of Canada*. Data on the use of still gas in petroleum refineries (p6) are from *The Petroleum Products Industry*. The figure for gas used for lighting railway cars (w1) is based on the assumption that production equals consumption in this case.

Liquefied Petroleum Gases

25. Tables 23 and 24 give data for the available supply, and partial data for the distribution, of liquefied petroleum gases.

26. Data on production (a) were obtained from Census of Industry schedules. Data on inventories held at refineries in 1952 (g) were obtained from *Refinery and Marketing Inventories and Domestic Consumption of Refined Petroleum Products*. The volume of imports (b) in 1948 was estimated on the basis of figures obtained from *Trade of Canada*, from which the actual figure for 1952 was also taken.

27. Data on use by coke and gas plants (p5) were obtained from *The Coke and Gas Industry* for 1952, and from Census of Industry schedules for 1948. Use by the petroleum products industry (p6) was obtained from Census of Industry schedules. Use by electric railways (w2) was obtained from *Electric Railways*. This was probably fuel used by motor buses.

Gasoline and Naphtha

28. Tables 25 and 26 give balances for the supply and distribution of gasoline and naphtha. The two sides, which were computed independently except for a small item in the 1948 accounts, balance within 1.3 per cent for 1948 and 2.2 per cent for 1952. For both years, more consumption was measured than the supply side could account for.

29. Figures for production (a) are from *The Petroleum Products Industry*, as are figures for use in petroleum refining (p6). For 1948, the refining figure (p6) is the amount of gasoline used by refineries, as reported in the 1953 publication. For 1952, it is the amount made by refineries for their own use. Imports (b) and exports (c) are from *Trade of Canada*. Sources of the inventory figures (e) and (f) are outlined in paragraph 52.

30. The distribution side of the account was calculated differently for 1948 and 1952, since more detailed information is available for the later year. The calculation for 1948 was as follows. Gross sales of gasoline of 1,517,564,530 gallons are shown in *The Motor Vehicle*. This figure includes some propane, also sales for export. Exports of Canadian gasoline and naphtha of 8,772,438 gallons as given in *Trade of Canada* were therefore deducted, in the absence of a figure for the precise volume of the sales for export which were included by the respondents. The balance is entered as apparent domestic consumption, net of waste (x). The item of other gasoline accounted for (v) was obtained as a residual by deducting from (x) all gasoline accounted for by individual types of use. The quantity of gasoline referred to in the footnote as probably used by motor vehicles is taken from *The Motor Vehicle*.

31. For 1952, a special calculation was made for sales of gasoline, exclusive of propane and of sales for export. This came to 2,314,446,803 gallons. This figure is recorded as consumption in Canada, net of waste (x). The item of other gasoline accounted for (v) was obtained as a residual by deducting from (x) all gasoline accounted for by individual types of use. The figure for shrinkage and waste (y) was obtained from worksheets, as were data given in the footnote regarding unmarked gasoline.

32. Use by non-fuel producing manufacturers and mines as fuel (s) and (t) was obtained, for 1948 only, by the Census of Industry. Use by manufac-

turers as raw material (q) was obtained from Census of Industry schedules. Use by central electric stations (p7) was obtained from *Central Electric Stations*, use by railroads (w1) from *Railway Transport, Parts I and III*, use by electric railways (w2) from *Electric Railways*, and use by motor carriers (w3) from *Motor Carriers Freight-Passenger*. Use by civil air carriers (w5) was estimated on the basis of figures obtained from *Civil Aviation*.

Other Petroleum Fuels (Kerosene, Tractor Fuel, Diesel Fuel, and Fuel Oils Numbers 1 to 6)

33. Tables 27 and 28 give balances for the supply and distribution of kerosene, tractor fuel, diesel fuel, and other fuel oils. The two sides, which were computed independently, with one minor exception, balance within 3.0 per cent for 1948 and 4.7 per cent for 1952.

34. The figures for production (a) and for use at the refineries (p6) are from *The Petroleum Products Industry*. For 1948, refinery use (p6) is the figure given for fuel used, in the 1953 publication. For 1952, the figure given is that of production by refineries for their own use. Imports (b), and exports (c) are from *Trade of Canada*. Sources of the inventory figures (e) and (f) are outlined in paragraph 53. Oil used for making Pintsch gas (p8) was given in *The Miscellaneous Non-Metallic Mineral Products Industry*.

35. On the consumption side, deliveries for use in homes and buildings (m) and ships and boats (w4) are from reports made annually by refineries, and published in *Consumption of Petroleum Fuels*. Deliveries for use in motor vehicles (w3) are from the same source. The taxed sale of diesel fuel used by motor vehicles is from *The Motor Vehicle*, and the subtraction of this from total deliveries (w3) gives a hybrid estimate of use by other motor vehicles. Fuel used in coke and gas plants (p5) is given in *The Coke and Gas Industry*. The 1952 figure is supplemented by material from Census of Industry worksheets. Data on fuel used by central electric stations (p7) and by electric railways (w2) are published in *Central Electric Stations* and in *Electric Railways*. Data on fuel used by railroads (w1) include fuel consumption by locomotives, as published in *Railway Transport, Part III*, and other fuel consumption, as published in *Railway Transport, Part I*. In the case of 1952, fuel used by Canadian railroads in the United States has been deducted, this information being obtained from unpublished material. Use by industry as a raw material (q) was taken from Census of Industry schedules. Use by mines for concentrating ores (qq) was obtained from the trade statistics, on the arbitrary assumption that imports for that purpose equalled consumption during the year. For 1948, use as fuel by non-fuel producing manufacturers (s) was obtained from figures in *The Manufacturing Industries of Canada*, less consumption as fuel in coke and gas

plants, and in petroleum refineries. Use as fuel by non-fuel producing mines (t) is from data given in *Mineral Statistics of Canada*. For 1952, the subtotal for deliveries for use by industry and mines outside the energy-producing sector (u) was obtained by deducting from deliveries for industrial use, as published in *Consumption of Petroleum Fuels*, the actual consumption by coal mines (p1), gas wells (p3) and oil wells (p4), the coke and gas industry (p5), and for making Pintsch gas (p8). The result is therefore a hybrid figure. Use as fuel in this sector (r) was obtained as a residual.

36. On the consumption side, there is a gap in the statistics where direct imports by consumers are concerned. These imports are, of course, included in the *Trade of Canada* figures on the supply side. They will not, however, be included in deliveries by refineries and dealers. Thus, any consumption of direct imports is omitted for both years in the case of the merchandising and service trades, and for 1952 in the case of manufactures.

Fuelwood and Wood Waste Useable as Fuel

37. Tables 29 and 30 give commodity statements for fuelwood and wood waste useable as fuel.

38. The figure for production of fuelwood is a preliminary revision of that published in *Operations In the Woods*. Production of mill waste is from *The Lumber Industry* and from unpublished data. Imports (b) and exports (c) are from *Trade of Canada*.

39. Use by coke and gas plants (p5) in 1948 is from *The Coke and Gas Industry 1953*. Use by petroleum refineries (p6) in 1948 is from *The Petroleum Products Industry 1953*. Use by manufacturing industries as raw material (q) is from Census of Industry schedules. Use as fuel by non-fuel producing manufacturers (s) in 1948 was obtained by subtracting from the total fuel used by manufacturing industry, as published in *The Manufacturing Industries of Canada 1948*, the amount used by coke and gas plants and by petroleum refineries. Use by mines in 1948 (p1), (p4) and (t) is from *Mineral Statistics of Canada*. Use as fuel by railroads (w1) is from *Railway Transport, Part III*.

Electricity

40. Tables 31 and 32 give balance sheets for the supply and distribution of electricity. The two sides, which were computed independently, balance within 3.1 per cent for 1948, and 3.0 per cent for 1952.

41. Data on electricity generated by central electric stations are from *Central Electric Stations*, as are data for generation by manufacturing industry and by mines, for their own use. The amount generated by electric railways for their own use is from *Electric Railways*. Data for imports (b) and exports

(c) are from *Central Electric Stations*. The export figures were collected by the Standards Branch, and the import figures are from annual returns made by central electric stations.

42. On the distribution side, figures for free service (1), residential use (m), other non-industrial uses (mm), and losses (w7) are from *Central Electric Stations*. The amount used by electric railways (w2) is from *Electric Railways*. Data for electricity used in mining and manufacturing include that generated for own use.

43. Data for electricity used in the production of fuel, (p1), (p3), and (p4) are from *Mineral Statistics of Canada*. The 1948 figure for the coke and gas industry (p5) is published in *The Coke and Gas Industry 1953*, and that for petroleum refineries (p6) in *The Petroleum Products Industry 1953*. The 1952 figures for these industries were obtained from unpublished sources. The figure for manufacturing industry, other than fuel manufacturing (s) was obtained by deducting from total use by manufacturing industry the amount used by coke and gas plants (p5) and petroleum refineries (p6). The equivalent figure for mining (t) was obtained by similar methods.

44. The tables exclude electricity generated by central electric stations for their own use. There are also known to be a number of small generating sets not covered, such as household or farm sets, or plants run for their own use by garages or other establishments not covered by the Census of Industry.

Inventories of Coal (Excluding Briquettes)

45. Table 33 shows inventories of coal (excluding briquettes) at the beginning and end of 1948 and 1952, together with changes during those years. The sources of these data were as follows. Stocks held by industry are measured monthly in connection with the survey of coal consumption by industry. This survey covers only firms using 500 tons or more of coal and coke per year. Stocks held by retail dealers are measured monthly in connection with the survey of sales by retail fuel dealers. The results are published monthly in *Coal and Coke Statistics*, and annually in *The Coal Mining Industry*. Some data on stocks held by dock operators are collected monthly in connection with a survey of retail sales by dock operators, and one of wholesale sales in the Maritimes. Other data are collected by the Dominion Coal Board in the course of a survey of the remaining wholesale sales by dock operators. Stocks of coal held by coke and gas plants are measured in the course of the monthly survey of coke and gas plants. Stocks held by the railways are compiled monthly. Stocks of bunker coal are measured as part of a monthly survey of sales for ships' bunkering. Stocks of coal on bank at the mines are measured during the monthly survey of coal mines.

Inventories of Coal Briquettes

46. Table 34 shows inventories of coal briquettes. Data on inventories held by retail dealers are handled in the same way as inventories of other coal held by them. Data on inventories held at manufacturing plants are collected monthly.

Inventories of Crude Petroleum

47. Table 35 shows inventories of crude petroleum. Data on inventories held in field storage are from *Census of Industry* worksheets. Data for inventories held by refineries are published monthly in *Refined Petroleum Products* and annually in *The Petroleum Products Industry*. Data on inventories of oil in the pipeline system are published monthly in *Pipe Lines (Oil) Statistics*.

Changes in Inventories of Natural Gas

48. Table 36 shows changes in inventories of natural gas. This information was obtained from publications of the governments of Ontario and Alberta. The Ontario data are from the *Annual Report of the Ontario Department of Mines*, where a net figure for the amount of natural and still gas sent to storage is published. This figure is included in the current survey as if it were all natural gas. The Alberta data are from the annual reports of the Conservation Board.

Inventories of Coke (Other than Petroleum Coke or Pitch Coke)

49. Table 37 gives data on stocks of coke. These were obtained in the same way as figures for stocks of coal for both years in the case of industry, retail dealers, coke and gas plants, and for 1952 in the case of dock operators.

Inventories of Petroleum Coke

50. Table 38 gives data on stocks of petroleum coke. These were obtained in the same way as figures for stocks of coal, in the case of industry and retail dealers (see paragraph 45). Data on stocks held by petroleum refineries are published monthly in *Refined Petroleum Products* and annually in *The Petroleum Products Industry*.

Inventories of Liquefied Petroleum Gases

51. Inventory data for liquefied petroleum gases are not available for 1948. For 1952, data are available for refinery stocks alone. These were published monthly in *Refinery and Marketing Inventories, Domestic Demand and Net Sales of Refined Petroleum Products*. Refinery stocks of liquefied petroleum gases changed in 1952 from 664 thousand gallons to 861 thousand, an increase of 197 thousand.

Inventories of Gasoline and Naphtha

52. Table 39 shows inventories of gasoline and naphtha. Data on marketing inventories were published monthly in *Refinery and Marketing Inventories, Domestic Demand and Net Sales of Refined Petroleum Products*, and in *Refined Petroleum Products*. The figures used were the latest revised figures from the annual issues of *Refined Petroleum Products*. Data on refinery inventories were published monthly in *Refinery and Marketing Inventories* and annually in *The Petroleum Products Industry*. The monthly survey included stocks held at terminals, but excluded some manufacturing establishments. The annual survey covered all manufacturers, but excluded terminals. The annual figures were used for this project.

Inventories of Other Petroleum Fuels

53. Table 40 shows the changes in inventories of other petroleum fuels during 1948 and 1952. Information was collected in the same way as for gaso-

line and naphtha, and the annual figures are again used for refinery inventories, thus omitting stocks held at terminals. One difficulty in connection with the statistics for other petroleum fuels is that the specifications of the commodities overlap. Consequently, it is possible for a product to appear in the inventory statement of one type of fuel at one date, and of a different type at another date. For the group as a whole, however, there should be few problems on this score. In addition to the figures shown, refineries held stocks of unfinished products, the details of which were as follows:

Stocks of unfinished products
(thousands of imperial gallons)

	1948	1952
Stocks at beginning of year	71,733	123,251
Stocks at end of year	99,191	135,695
Change during year	+27,458	+12,444

These unfinished materials are not included in the main tables.

